

# THE IRON AGE

THURSDAY, FEBRUARY 20, 1890.

## Rail Production in 1889.

The American Iron and Steel Association has received reports from the Bessemer steel works of the country, which show that the total quantity of Bessemer steel rails made in the United States in 1889 by works producing their own ingots was 1,644,234 net tons, or 1,468,066 gross tons, a gain of only 102,145 gross tons over the production of 1,365,921 gross tons in 1888.

In the following table are presented the details of our production of Bessemer steel

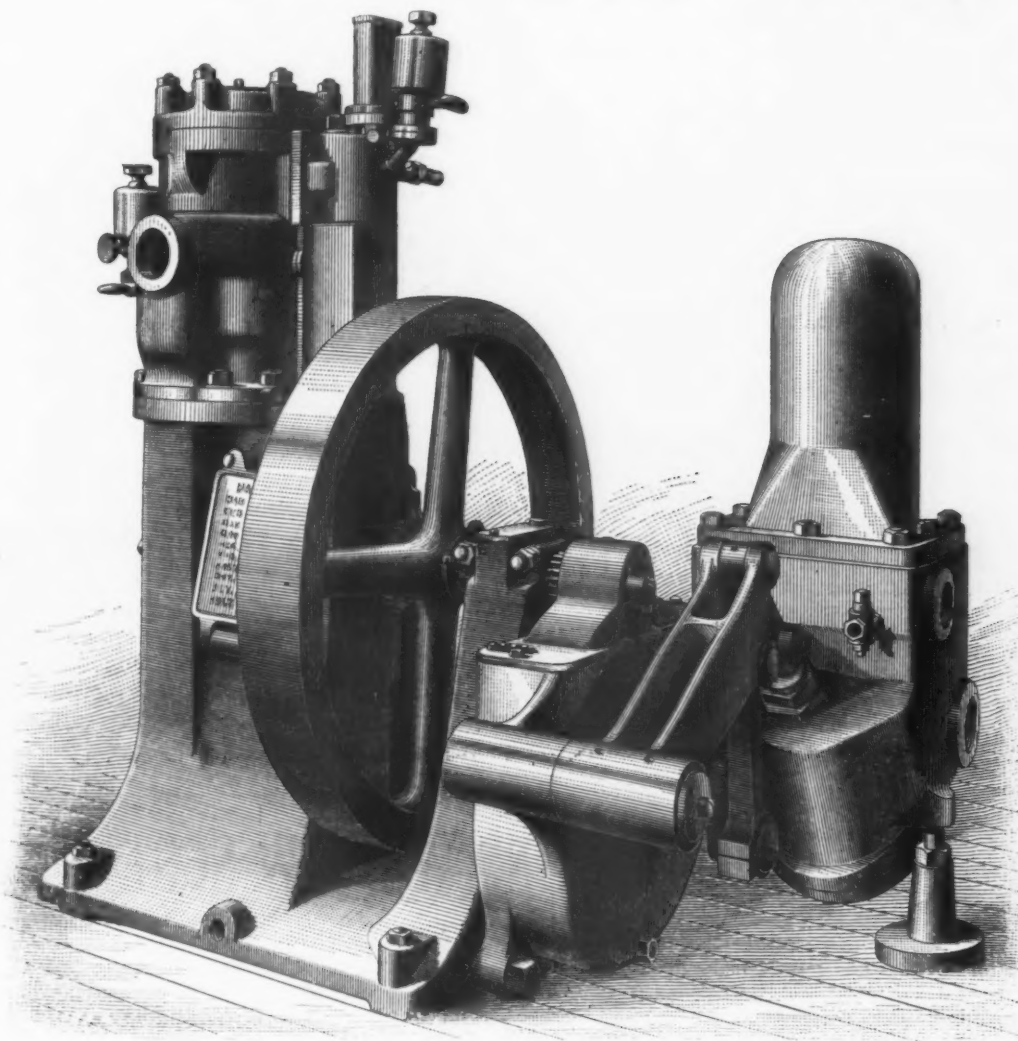
the production of Bessemer steel ingots last year was about 400,000 gross tons larger than in 1888, and closely approached the quantity produced in 1887, the year of our largest production of Bessemer steel, when we made 2,936,033 gross tons of ingots, thus indicating how rapidly the demand continues to increase for steel for miscellaneous products which were formerly made of iron.

The State authorities of Kansas have issued their first statistical report concerning the extent of the salt industry in that

of 24,158, which exceeds the issue of any one previous year, except that of 1885; while the number of applications filed, the pulse of the inventive activity and prosperity of the country, reached 405,705, which is nearly 5000 in excess of any previous year.

## Gas Engine and Pump.

We published in *The Iron Age* of February 14, 1889, on pages 229 and 230, an article describing and very fully illustrating the gas engine manufactured by



GAS ENGINE AND PUMP, BUILT BY THE NATIONAL METER COMPANY.

rails in 1889. There is not included in this table the comparatively small quantity of rails rolled in iron rolling mills from purchased blooms:

States.	First half 1889. Net tons.	Second half 1889. Net tons.	Total, 1889. Net tons.	Total, 1888. Net tons.
Pennsyl- vania...	523,882	578,635	1,102,517	911,206
Illinois...	179,201	340,853	520,054	488,639
Other states ..	16,480	5,174	21,653	129,987
Total, '89	719,562	924,662	1,644,224	1,529,832
Total, '88	775,261	754,571	1,529,832	.....

Although the Bessemer steel-rail production of 1889 is shown above to be but little larger than that of the year 1888, yet

State. The discovery of the salt mines of Kansas was a most important event for the manufacturing prosperity of the commonwealth. The product for 1889 amounted to 547,224 barrels, and in addition there were 19,056 tons not put in barrels. The report includes the operations of salt plants at Hutchison, Anthony, Kingman, Wellington, Nickerson, Solomon City and Sterling. The heaviest production is reported from Hutchison. Two companies, the Riverside and the Western, report a product for the year of 125,000 barrels each, these companies having the two largest plants in the State.

The Patent Office at Washington reports that 1889 was an exceptionally good year. The revenues of the bureau, amounting to \$1,281,728 05, exceeded the total for any preceding year by more than \$100,000. The list of patents issued foots up a total

the National Meter Company of New York. The present illustrations show the same gas engine arranged to operate a pump, the construction of which will be understood from the engravings.

Mounted on the engine shaft is the pinion A, which engages with the gear B. As the gear is inclosed in a box containing oil, thorough lubrication is provided, and the wear of the only quick-moving part of the pumping portion of the machine reduced to a minimum. The shaft of the gear-wheel carries a crank connected by the rod C with the rocking shaft D, which, by the rod E, is connected with the rod of the plunger F. The water enters through the valve H and is discharged through the valve G. This arrangement of the several parts of the pump in relation to the engine permits of the placing of the entire machine on one base, thereby obtaining all the advantages

to be derived from rigidity and compactness. It is stated that at the price for which gas is sold in New York this engine will raise 1000 gallons of water to a height of 75 feet for  $2\frac{1}{2}$  cents.

#### An Important Ore Mine Transaction.

The Milwaukee *Evening Wisconsin* contains the following announcement:

A syndicate, consisting principally of the owners of the famous Cleveland iron mine, has bought a controlling interest in the Iron Cliffs Company, which operates a number of mines and owns 53,500 acres of land, mostly valuable mineral land in the Marquette district. John Quincy Adams, of Negaunee, was instrumental in putting the deal through. The sale was made on the basis of \$2,500,000 for the entire stock of the company. The purchasers acquire fourteen twentieths of the stock of the Iron Cliffs Company, and the amount of cash paid for the interest was exactly \$1,750,000. The purchasers are all well-known Cleveland iron ore men and capitalists, who already hold large mining interests.

J. H. Wade, the heaviest purchaser of the stock, has an interest in the deal aggregating \$400,000. Selah Chamberlain put \$300,000 into the enterprise. Samuel Mather and W. L. Mather jointly invested \$300,000. George Howe took \$125,000 worth of stock; I. P. Handy, \$50,000 and J. V. Painter \$25,000. Besides these the Clark estate, E. D. Baldwin, J. B. Savage, W. J. Gordon and others are large investors. The Iron Cliffs Company has been controlled by what is known as the New York lawyers' syndicate, composed principally of Samuel J. Tilden, W. H. Barnum and S. L. M. Barlow and the lands were bought by those gentlemen some 25 years ago when Michigan land was cheap. The company was capitalized at \$1,000,000, divided into 20,000 shares at \$50 each, but its property was considered a bargain by the present purchasers at \$2,500,000 for the entire territory. The stock was purchased at that rate, that is at \$125 a share.

The mines operated are upon its own lands and include the Cambria, Salisbury, Lilly, Lucy, Foster and Section 12. The mines can produce in the neighborhood of 500,000 tons of ore this year if desired, and there are other valuable ore deposits on the lands which can be opened at any time. Of the 53,500 acres of land in the Iron Cliffs tract, 36,000 acres lie in the richest section of the Marquette iron district and some of the land is located in the Ishpeming gold field. The Cleveland men have been flirting with the Iron Cliffs Company ever since the death of Samuel J. Tilden in the hope of obtaining an option, but it was not until after the death of W. H. Barnum that they succeeded in obtaining an option on a majority of the stock.

The company will, of course, be reorganized with headquarters in Cleveland. Owing to the existence of a State law in Michigan forbidding the acquisition by any one company of more than 50,000 acres of iron mining land, the Cleveland and Iron Cliffs Companies cannot be consolidated, although they will be practically one concern. The new company expect to push the development of their newly-acquired property at once. The Pioneer Furnaces at Negaunee, adjacent to the mines, are owned and operated by the Iron Cliffs Company.

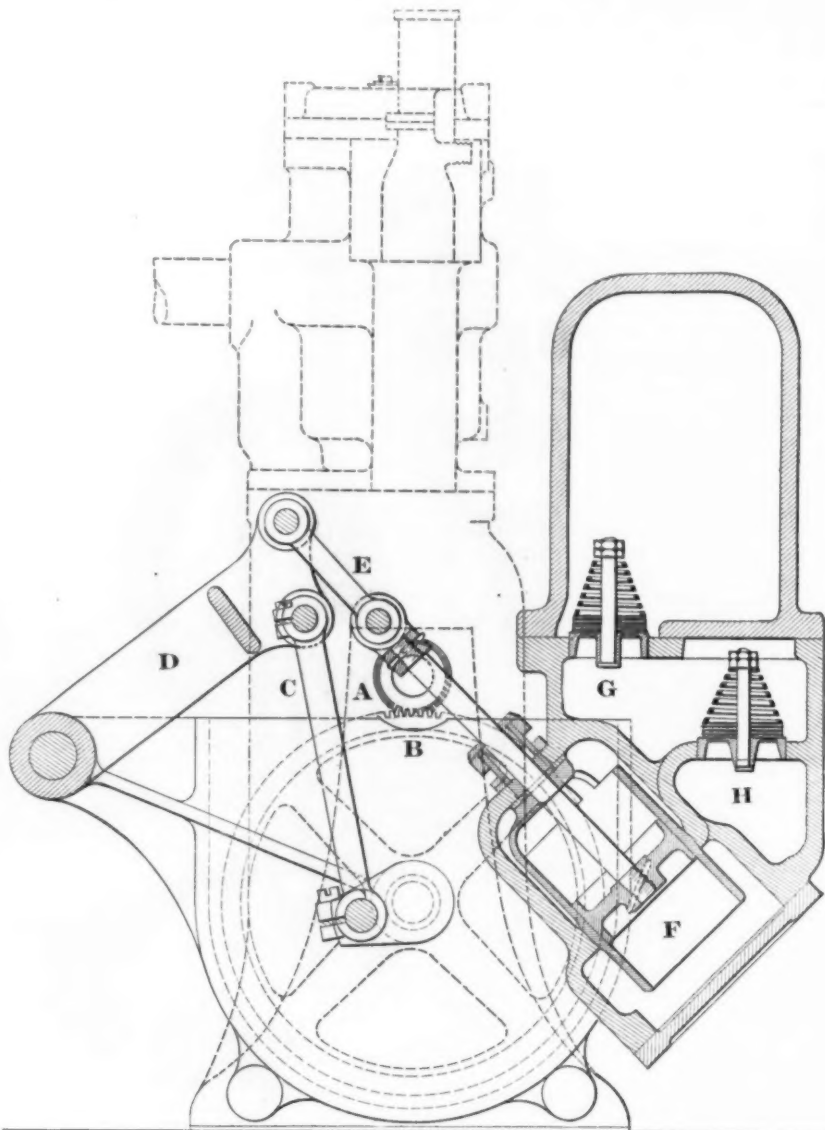
#### OTHER MINING NEWS.

Negotiations are in progress for the sale to Ferdinand Schlesinger of several mining properties on the Gogebic range, including the Germania and Dangler mines and what is known as the Section 33 property. There is also a likelihood that

the Sunday Lake and Iron Chief mines will be sold to Mr. Schlesinger as soon as the litigation in which they are now involved is settled. There is talk of a deal including the Anvil and Brotherton, but it is said there will be no sale of these properties at present. There is a well-defined rumor that the Germania, Dangler, Section 33, Anvil and Brotherton are to be sold in a bunch.

The Commissioner of Patents on the 13th inst., rendered a decision bearing upon the inclusion in one application of claims for the method and claims for the apparatus by which the method may be

antagonism shown against the adoption of machines in many branches of industry even up to quite a recent date it is quite interesting to note the action of the coal miners of the Central States at their recent meeting at Columbus, Ohio. A resolution was passed at this meeting indorsing the Shaw machine and recommending its adoption in all the mines of the country. The great bugbear of the unskilled workmen has always been the displacement of hand labor by machine labor, which they argue throws so many men out of employment. The fact is too often overlooked that work is thus made very much less arduous, and statistics show



GAS ENGINE AND PUMP.—SECTION THROUGH PUMP.

carried out. He holds substantially that while separate claims may be made for product and process, there can probably be but one patent, and hence but one application should be required by the office. So, also, where some of the claims cover a machine and others a supposed process, the latter being merely the function of the machine, one application is sufficient to secure the invention and is exhaustive of the applicant's rights. The same doctrine is also applicable where claims are formulated upon the same structure, some to cover it broadly or in a general form, while others are specific in character.

The progress of the age is shown as much in the advanced ideas now prevalent among workingmen as in any of the other signs of the times. In view of the

that in the course of time the number of workmen employed is increased rather than diminished, and there is really no loss of employment. The use of coal-mining machinery is certainly very beneficial to those who are obliged to work in cramped positions when mining by hand. The coal miners are very sensible to admit this, and their action proves them to be among the most progressive of workmen.

An interesting experiment in jumping a torpedo boat over a boom was made recently at Porchester Creek by the officers of the British war ship *Vernon*. The boom, which was 20 feet in length, differed from the usual spars which are used for the defense of harbors against torpedo attacks, in that it was 6 feet broad and was fitted with spikes, which it was sup-



posed would hold the boat a prisoner. No. 49, first-class torpedo boat, which had been strengthened for the purpose, was selected to attack the boom. She made a dash at the boom at a rate variously estimated from 16 to 20 knots. As she struck the spar, her stem was lifted out of the water almost as high as the boom itself, which sank on impact, and before it could rise to the surface the momentum of the craft had carried her over. She was subsequently berthed in the dry dock, and it was found that neither her cutwater nor her propeller had suffered in the least, nor had a single plate been bulged or started.

### The Harlem River Syphon.

The most wonderful piece of hydraulic engineering in the new aqueduct is the great syphon constructed for the purpose of conveying the metropolitan water supply across the Harlem River at a depth of 307 feet beneath the bed of the latter. It would have been less expensive to build a stone or steel viaduct to bring the water over the river than to bore a great hole through solid rock, 307 feet below the tide, but certain advantages were gained by the latter method which, it is believed, will counterbalance its greater cost. Not the least of these is the immunity from the danger of foreign attack.

The syphon is a circular tube of brick, 10 feet 6 inches in diameter, and the water in it is under great pressure. At Shaft No. 20, where the horseshoe section ends, the flowing capacity of the aqueduct is reduced from 318,000,000 gallons a day to 250,000,000, leaving 68,000,000 gallons to be turned into Jerome Park when the historic home of the defunct American Jockey Club shall have been converted into a reservoir for supplying the annexed district with water. The syphon having a smaller area than any other portion of the tunnel, the stream must flow through it much more rapidly than it flows elsewhere in order to keep the larger section south of the river up to its full capacity of 250,000,000 gallons. Plunging down Shaft No. 24 the water sweeps under the Harlem to Shaft No. 25, where it lifts itself into a great vertical column over 400 feet in height. Then, breaking off abruptly to the horizontal, it climbs a gentle slope to the gatehouse at 135th street.

No. 25, one of the greatest shafts in the world, is in reality a double shaft. The syphon being the lowest part of the aqueduct, whatever sediment the water may contain will be deposited there, and it becomes necessary to provide a means of cleaning it out from time to time. Chief Engineer Fteley has designed an ingenious yet remarkably simple apparatus for the purpose. The two shafts are side by side, divided only by a stout wall of masonry, in which at the extreme bottom there is a gate, which being opened permits the water to pass from one to the other. The first shaft, a section of the aqueduct proper, is always full; the second, its auxiliary, is empty so long as the gate is kept closed. To clean out the syphon it is necessary to empty all that portion of the aqueduct between South Yonkers and 135th street. The first proceeding is to dam the water at South Yonkers. The next is to open the gate at the bottom of No. 25 and let the water pour into the auxiliary shaft. In this there are enormous buckets, which slide up and down with the speed of the wind, being held in position by bronze guides. They have valves in the bottom, which open as they plunge into the water and close when they are pulled up, filled to the brim. They travel so fast that the water has no chance to rise in the shaft and the aqueduct is emptied in an incredibly short time. Pipes convey the waste to Harlem River. The apparatus is oper-

ated by splendid engines, designed for that especial purpose.

The foresight shown by Mr. Fteley and the care with which he has worked out the minutest details of the construction are forcibly brought to mind in the arrangement of the gate. To the casual observer the rod by which it is raised and lowered is unnecessarily large and heavy. It is 4 inches square and weighs about 11 tons, while the gate itself weighs but 1 ton. Both are bronze, so that they will never rust. By a turn of the wheel controlling this gate an immense power is gained. The gate and rod together weigh 24,000 pounds, yet a pressure of 25 pounds on the lever is sufficient to lift them. A delicate child might operate the entire mechanism. In all the world no work of a similar character approaches the new aqueduct in magnitude. The Hoosac Tunnel is only five miles long, the Mont Cenis is eight miles long and the St. Gothard nine and a half. The aqueduct tunnel is nearly 30 miles long. At one time as many as 10,000 men were employed on the work. The number of deaths from accident has been small, not exceeding 90. Several hundred men, since leaving the work, have died of maladies which were probably superinduced by exposure to drafts in going in and out of the tunnel and the breathing of bad air in the head-ings.

### North Carolina Iron News.

GREENSBORO, N. C., February 15.

The influence of iron is making itself felt in North Carolina. While a little slow to join in the procession, this State is now demonstrating that it will in the very near future be a foeman worthy of the steel of any other rival iron producing State. There is encouraging activity in every mineral quarter, and during the past few months the State has been full of capitalists looking at the different mining properties that are in the market.

The North Carolina Steel and Iron Company, with headquarters in this city, have been organized with a capital of \$1,000,000, with James A. Odell, of the Odell Hardware Company, as president, and J. J. Newman as general manager. This company intend manufacturing pig iron and steel, and own large bodies of high grade Bessemer, mill and foundry iron ores. Their ore lands are located in Chatham and Moore counties 40 miles from Greensboro, and on the line of the Copetear and Yadbin Valley Railroad. The company also own large magnetic iron properties in Western North Carolina. The company calculate that they can produce Bessemer pig iron at as low as \$7.93 per ton. Here are their figures:

Mining, 1½ tons 60 % ore at 50 cents per ton.....	\$0.83
Freight, 1½ tons 60 % ore, 40 miles, at ¼ cents per ton per mile.....	.50
Coke, 1¼ tons, at \$1.65 f.o.b. at Pocahontas.....	2.07
Freight, 1¼ tons coke, 245 miles, at ¼ cent per ton per mile.....	1.53
Limestone, 25 cents Labor, \$1.....	1.25
Maintenance, 50 cents. Repairs, 50 cents.....	1.00
Interest, 25 cents. Salaries, 50 cents.....	.75
Total cost ton of pig iron.....	\$7.93

A representative of the Columbia Mining Company, of Philadelphia, has been on a tour recently through a number of counties in Western North Carolina. He has effected leases for numerous iron properties, and his company contemplate building a furnace either in Catawba or Lincoln county, most likely Lincolnton in the last named county, where the Charleston, Cincinnati and Chicago Railroad will very soon intersect the Carolina Central Railway, and thus place that point in easy access to the coal fields of Southwest Virginia.

An extensive iron bank in Lincoln County has recently been purchased for \$16,000, by William Leigh, of Virginia, who will begin the development of the property at once.

During the past few months many Northern capitalists have bought up iron lands in this State. More than 100,000 acres of land in Caldwell County and 50,000 acres in Burke County are now owned by Northern and English syndicates.

A syndicate is forming at Danbury, in Stokes County, for the purpose of controlling at least 100,000 acres of valuable mineral lands in that county, which is particularly rich in iron ores.

Richmond Pearson, a capitalist of Asheville, N. C., has recently purchased mining properties, consisting of 3500 acres of lands in Stokes County. Every day new deposits of ore are being discovered and the mountains are full of prospectors. A heavy deposit of rich ore has just been found near Piedmont Springs, and another big find of magnetic iron is reported from the south side of Dou river, near Piedmont Springs. A Boston man named Pickering was in Danbury last week looking after 18,000 acres of land around that town, which were granted to a Mr. Shober, of Salem, N. C., and sold to his grandfather, Timothy Pickering, of Philadelphia, many years ago.

The coal mines of the Egypt Coal Company in Chatham County are to treble their capacity. Negotiations have been pending which may result in an entire transfer of their property to the North Carolina Steel and Iron Company, of Greensboro. It is said that there are indications of the existence of natural gas at Egypt.

The new building of the Concord Wood and Iron Works is being rapidly erected. The Concord Railway Company are having a branch extended from their main line to the works.

The factory of the Fayetteville Iron Bound Bucket Company is now running night and day to keep up with orders. The superintendent says that he is 1000 buckets behind his orders. The company contemplate enlarging their capacity and will increase their capital stock from \$10,000 to \$25,000.

The capacious buildings of the old Clarenden Iron Works, an ante-bellum industry of Wilmington, have been purchased by the Industrial Mfg. Company, a new organization of Wilmington. Workmen are now employed in placing the engine and boiler in position, and within a few weeks the factory will be in operation.

The Goldsborough Iron Foundry and Agricultural Works, of Goldsborough, were destroyed by fire on the 11th inst. The fire caught from the cupola. The loss on the building and patterns will exceed \$15,000; insurance on building, \$10,000.

Asheville is making an effort to induce the location of iron working plants. That city is well located for this industry. There are very valuable deposits of magnetic iron ore immediately around Asheville, while the whole of Western North Carolina is a vast treasure house of high grade iron ores. Lime is within easy reach all along the French Broad Valley, in the counties of Transylvania, Henderson and Madison, and coke can easily be supplied from Tennessee and Pocahontas, while the timber of that section is inexhaustible for charcoal purposes.

The iron foundry and machine works of S. W. Skinner & Co., at Wilmington, are nearing completion.

In addition to the operations carried on at Sudbury, Ont., by the Canadian Copper Company, the Dominion Company are running considerable quantities of nickel copper ore from the Duchanne Mine at Blezard, and the Swansea Company are producing from the Murray Mine, at McKim, near Sudbury.

### The Chemistry of the Basic Process.

The last volume of the "Transactions of the Iron and Steel Institute" contains an account of the visits made to French works during the recent meeting at Paris. We quote from it the following:

After leaving the works at Senelle the party again took the train, and arrived at

we reproduce, one of these diagrams showing the order of the elimination of the elements in the pig under treatment, and the other the composition of the slag during the operation, this latter showing what M. Escalle thinks is a reduction of oxide of iron in the slag by the manganese in the ferromanganese added at the end of the operation.

in the composition of the slag the scale of the lime curve is reduced to one tenth. The point of departure of that curve is therefore 95, which is the content in per cent. of the lime additions. The sulphur curve on the contrary is multiplied by ten.

### Suggestions for Foundry Mixtures.

Rogers, Brown & Meacham, of St. Louis, have published the following suggestions for foundry mixtures:

**Strong Heavy Machinery** (requiring moderate finishing): 33 per cent. Sloss, Williamson or Etowah, No. 2 Foundry; 33 per cent. Sloss, Williamson or Etowah, No. 3 Foundry; 33 per cent. Star, Norton or Iron Point, No. 2 Foundry.

**Strong Light Machinery** (requiring much finishing): 50 per cent. Sloss, Williamson or Etowah, No. 2 Foundry; 25 per cent. Warner, Aetna or LaGrange, Charcoal No. 1 Foundry; 25 per cent. Jackson County or Norton Softener No. 1.

**Architectural and General Jobbing Work:** 50 per cent. Sloss, Williamson, &c., No. 2 Foundry; 25 per cent. Hamilton, Hanging Rock, Coke, No. 2 Foundry; 25 per cent. Jackson County or Norton, No. 1 or 2 or  $\frac{1}{2}$  each.

**Stove Plate and Very Light Work:** 40 per cent. Sloss, Williamson, &c., No. 1 Foundry; 25 per cent. Hamilton or Equivalent, No. 2 Foundry; 15 per cent. LaGrange or Aetna, No. 1 Foundry; 20 per cent. Iron Point Scotch, No. 1 Foundry.

Scrap can be added to any of the above in proportions from 10 to 25 per cent., de

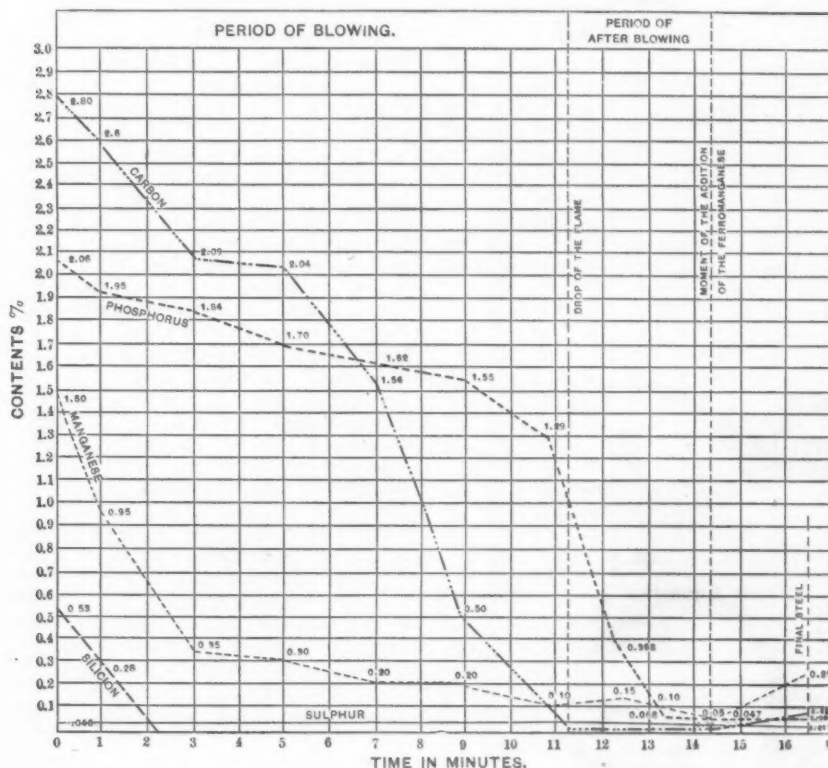


DIAGRAM OF DEPHOSPHORIZATION IN BASIC CONVERTER.

4.30 at Mont St. Martin, where the blast furnaces, converters and rolling mills of the Longwy Steel Works were inspected. This large establishment consists of six blast furnaces of 300 to 480 c. m. capacity, three on each side of the railway; three basic-lined converters, each of 15 tons capacity, capable of producing 400 tons of ingots per day, and powerful rolling mills for blooms, rails, billets, sheets and wire rods. The basic linings of the converters last for 160 to 175 operations, the plugs going from 16 to 25 blows. The dolomite is shrunk in three cupolas, with natural draft, the firing lasting eight days, the whole charge of the cupola being drawn at one time. The Thomas pig employed in the manufacture of the basic steel is taken molten from the blast furnace to the converter, and contains from

PHOSPHORUS -----  
IRON -----  
MANGANESE -----  
SILICA -----  
LIME -----  
SULPHUR -----  
MAGNESIA -----

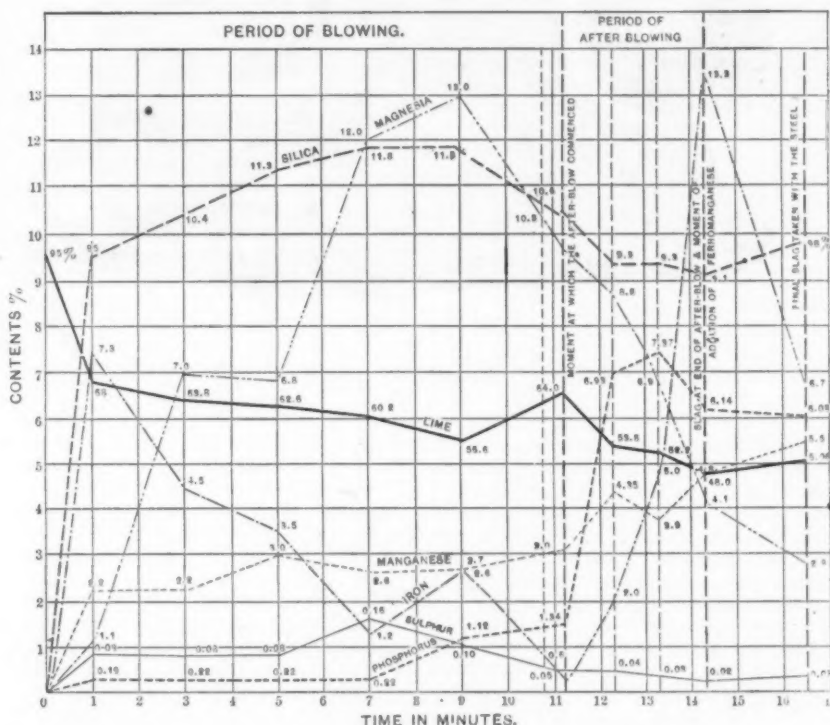


DIAGRAM OF VARIATIONS OF SLAG, BASIC CONVERTER.

1.8 to 2 per cent. of manganese, 2 per cent. of phosphorus, from 0.35 to 0.40 per cent. silicon, and 0.05 per cent sulphur. Manganiferous ores from Nassau are employed in its manufacture. The slag is ground and sold as a fertilizer for 36 francs per ton at the works. A large number of very interesting samples were shown by M. Escalle, the manager of the steel works, and also two diagrams, which

The operation was carried through on August 17, 1889. The final addition was 0.5 per cent. of ferromanganese carrying 63 per cent. The lime additional was 17.5 per cent. The final steel had annealed at tensile strength of 38.3 kg. per square mm. and an elongation of 29 per cent. Hardened, the steel had a tensile strength of 46.7 kg. and an elongation of 20 per cent. In the diagram representing the variations

pending on quality of the scrap and particular nature of the work. Each mixture will, of course, carry its own sprues and gates.

**Scrap Mixtures:** If it is convenient or economical to use scrap largely, they recommend for high-class work: 60 per cent. good scrap. 30 per cent. No. 1 Jackson County or Equivalent; 10 per cent. No. 1 LaGrange or Warner; For ordinary work: 65 per cent. common scrap, 20 per cent. No. 1 Norton or

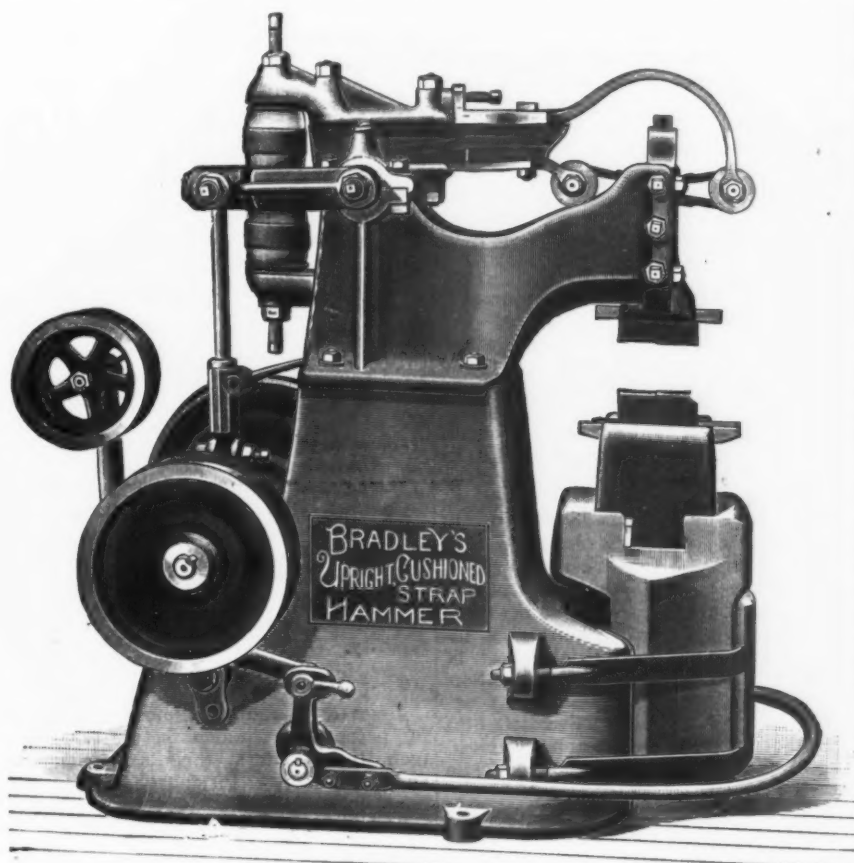


Jackson County; 15 per cent. No. 1 Hamilton H. R. Coke.

These suggestions for mixtures are the result of a large number of tests carried through at the Cincinnati testing mills of the firm.

### The Bradley Hammer.

Bradley & Co., of Syracuse, N. Y., the makers of the well-known Bradley hammer, have recently put on the market a modified design. The change in construction consists in using, instead of a wooden helve with rubber spring to carry the head and die, a helve of steel, in an arched form, with the head or ram carrying the die sustained and operated by a substantial endless strap suspended between spool-shaped bearings and extending lengthwise of the helve. The accompanying engraving shows the new design.



THE BRADLEY HAMMER.

The object aimed at was to allow of the utmost opening between the dies, either at rest or in action, and to secure elasticity and freedom of motion, thus increasing the throw of the ram while at the same time the stroke of the eccentric is shortened. The general principles of the adjustable connecting rod, the eccentric motion, the belt wheel with its tightener pulley, the fly-wheel with its brake, the control of the motion by a foot-treadle, and the separate anvil-block are preserved.

At a meeting of the Interstate Commerce Railway Association, at Chicago, on the 12th inst., a rate of 10 cents per 100 pounds was authorized on merchant iron from Chicago to Mississippi River points, East St. Louis to Dubuque inclusive.

On Thursday and Friday of last week the lead smelters of the West held a convention at the Palmer House, Chicago. About 20 were present, representing establishments between Pittsburgh and Omaha. Guy C. Barton, of Omaha, presided. The

meeting was not open to the public, but rumors were current that an effort was being made to form a combination. All present agreed that the price of lead was too low, but it is understood that no one could offer a basis for a combination which the others were willing to adopt. The general impression prevailed that prices would be better in the spring.

### Nickel in Steel.

S. J. Ritchie, of Akron, Ohio, who is identified with the Canadian Copper Company, of Sudbury, Ont., made a statement recently before the Ways and Means Committee, in which he brought out some interesting data concerning nickel steel. We quote the following from his report:

"Within the last year nickel has come to assume a very important place in metal-

competent members, a manager of the steel company, of Scotland, to make an extensive series of experiments with this alloy. This he did, and reported the results of his efforts to the meeting of the institute held in London, May 8, 1889. This report has attracted the attention of steel manufacturers all over the world. No results approaching the high elastic limit and breaking strain of those reported from this alloy had ever before been seen. I myself saw a piece of this steel made by the house of William Jessop & Sons, of Sheffield, which contained about 6 per cent. of nickel and which was 1 inch square, that sustained a weight of 108 tons and also showed a high elastic limit.

"These results were so wonderful that parties in Europe, who manufacture guns and armor plates for the three principal governments, have offered to contract for our companies' entire production for a period of ten years. The proportions of copper and nickel in the ores belonging to our companies are just about those used by the French Government in the manufacture of cartridge shells. The proportions of iron and nickel are about what are used in nickel steel, which is proposed to use in the manufacture of guns and armor plates. As above stated, we are now smelting large quantities of these ores in Canada, and shipping the product to Europe, and it is there being used in the manufacture of heavy guns.

"Last summer I made a tour of all the principal iron and steel works of Great Britain and the Continent, and at several large establishments we had the offer of converting their entire establishments into the manufacture of nickel steel, if we would enter into a contract to furnish them the material. The Secretary of the Navy had sent a man with me to examine into this whole subject, and we had promised the Secretary that we would make no contracts with any foreign government until we should have time to examine the value of this alloy for the use of the navy, and to obtain the necessary authority from Congress to act. To keep this promise we have refused the offers above named. We desire to deal with our own Government, and to manufacture all this material in our own country, and to sell it in our own country; but we do not want to be heavily fined for bringing raw material into the country, of a kind that we have not got, and cannot produce. The Government is about to expend many millions of dollars in the construction and building of a powerful navy. And it would seem not unreasonable to expect that it would offer some special inducements to any company who could furnish it with the best material in the world, and from the only source of supply in the world."

The sale of land near Chicago to the Grant Locomotive Works was confirmed by the court last week. Some of the owners of the land had objected to the sale on the ground that the price was too low and appealed to the court to have it set aside. For a time the chances seemed to be in favor of the appellants, but it was shown that they were satisfied until they learned who the purchasers were. The appeal was, therefore, very properly decided against them. The plans for the erection of the works will now be carried into effect without hindrance.

Mexicans are erecting first-class sugar plants in expectation of an increasing trade with Europe and with chances that they may obtain reciprocity with the United States. They argue that sugar planters in Louisiana might suffer from Mexican competition, but their loss would be the gain of makers of engines, boilers and sugar-mill machinery, not to speak of the advantage to result from cheaper sugar.

## Virginia Iron Notes.

NORFOLK, VA., February 17.

There is steady activity in Virginia's iron interests. At no time in the State's history has there been so great a number of enterprises contemplated which in one way or other have something to do with iron. Notwithstanding the bugaboo of the State debt capital is pouring into the State and new industries are daily announced. The present session of the Legislature has been called upon to incorporate more iron companies than have ever before prayed for legal existence. The following are some of the enterprises granted charters during the past week:

Reincorporating the Virginia Steel Company. Incorporating the Clifton Forge Company, the Radford Crane Iron Company, the Shenandoah Mining and Mfg. Company, the Brookneal Mining and Improvement Company, the Bertha Mining and Improvement Company and the Shenandoah Mining and Land Improvement Company, of Milnes.

The charter of the White Hall Mining and Milling Company was amended so as to enlarge their corporate powers and franchises, and enabling them to purchase, lease, construct and operate tramroads and railroads to and from their lands, mines and works, with all necessary terminal facilities and for all other purposes.

A company was also chartered for the purpose of building the bridge over the two branches of the Shenandoah River at Riverton, Warren County. These bridges were burned during the war and have never been rebuilt.

The Legislature has likewise given the town of Fredericksburg the authority to issue \$20,000 of bonds to build a bridge across the Rappahannock River.

The Big Axe Coal, Coke and Iron Company are a new organization in Buchanan County. The incorporators are Colonel J. D. Imboden, of Abingdon, L. T. Maury, J. D. Blair, and others. The company are allowed to have a capital stock not less than \$5000 and not over \$10,000,000. The company own 10,000 acres of coal and iron lands in Buchanan and Russell counties, which are to be developed at once.

A company is organizing to develop the iron mines near Chesterfield.

Active work is going on at the iron mines of the Blue Ridge Iron Company, at Honey Run Trestle.

It is reported that a wealthy English syndicate is negotiating for the purchase of the mineral lands of the Rockbridge Company.

The Roanoke and Pulaski Mineral Company have just added to their possessions another tract of iron lands near Pulaski City, paying \$100,000 for the property.

At Pulaski City capital has been subscribed for \$250,000 rolling mill and galvanizing works.

At Roanoke efforts are also being made to establish another rolling mill, besides extensive iron works.

The Blue Ridge Mineral and Development Company have been organized at Roanoke.

The work of constructing the new furnace at Salem is going forward rapidly. A great deal of machinery has already been received.

A large portion of the machinery for the West End furnace at Roanoke has been shipped from Pittsburgh. The cast house is ready for the joists, and the foundation for the stack is also nearing completion, and many carloads of fire-brick have already arrived.

The Roanoke Machine Works now employ 1400 men. The pay-rolls last month amounted to \$55,000.

The Roanoke Land and Improvement Company are negotiating with bridge manufacturers for the construction of two iron

bridges that company propose to place across Roanoke River.

At the next meeting of the directors of the Roanoke Rolling Mill Company a voluntary increase of puddlers' wages from \$4 to \$4.25 a ton was decided upon.

The Princess Furnace, at Glen Wilton, Botetourt County, has been awarded the contract for pig iron to be used in the construction of cruisers Nos. 7 and 8, to be built for the United States Navy at the Brooklyn Navy Yard. This iron is to be used in the manufacture of the cylinders of these cruisers, and the contract was awarded at \$20.50 per ton, against bidders from the North, East and West at lower figures.

The difficulty and delay in getting material from the Norfolk Navy Yard contractors for the battleship Texas has resulted in laying off about 50 skilled ironworkers, and these men have sought employment elsewhere and cannot be had at the yard again when wanted. But for the contractor splendid headway could have been made on the ship this winter. About 150 mechanics and laborers are now at work on the ship when there should be 500 or 600. The foreman has had to dodge about and work on such parts of the ship as he had material for.

## Deficiencies in British Vessels.

One marked result of the recent maneuvers of the British naval squadron was that it directed attention to the unsatisfactory speeds attained by the newer vessels. The new armored ships showed a falling off of speed that caused the owners, the taxpayers, who had paid immense prices for the new warships, ships in which they had been led to place the utmost confidence as a fighting force, to feel that they have been deceived as to the actual value of their investments. Of the 18 new armored ships there was a falling off in the actual speed made at sea from that made on the trial of 20 per cent. or more. The following half-dozen instances taken from the official report of about 40 ships will give an idea of the others and show what the Admiralty may expect to get out of the new battleships when they are steaming continually at sea, as compared with what they may make on the trials:

Vessel.	When built.	Speed on trial.	Actual speed at sea.
Immortalite .....	1887	18.50	14.40
Galatea .....	1887	18.50	14.40
Warspite .....	1884	16.75	14.20
Hero .....	1885	15.50	11.90
Conqueror .....	1881	15.50	12.00
Colossus .....	1882	15.40	11.90
Rodney .....	1884	16.75	14.00

The 22 large protected cruisers also showed a similar falling off in speed. As it is only the effective speed that counts, the Admiralty feel quite uneasy over the bad showing and are apprehensive lest the ships now building will not fulfill the promises of their designers any more than the ships which are now completed. And what makes them feel worse about it is the fact that the warships of other nations, notably the United States war vessels, do not fall off in the same fatal proportions as do their ships. For instance, the Italian battleship Italia was intended to be and is officially described as a 17.8-knot ship, yet it is only a few weeks ago that, during continuous steaming at sea, she made 18.2 knots, and without a breakdown.

William Martin, Secretary of the Amalgamated Association of Iron and Steel Workers of Pittsburgh, strongly denies the published report that he favored the adoption of the eight-hour system in the iron works of Pittsburgh. The yearly scale prevents any such movement being adopted.

## The Cyclone Snow-Plow.

The Cyclone steam snow-plow arrived at Sacramento, Cal., on the 3d inst. for repairs. The Cyclone is the largest and widest snow-plow yet built for any road, making a path 10 feet 4 inches in width. Its capacity is something marvelous. When the fan and auger are running at the rate of 500 revolutions per minute it will throw out 130,000 cubic feet of snow per minute. The car is 48 feet long, the width of the wheel being 10 feet 4 inches. Within the cab are three engines of 600 horse-power each, or a combined force of 1800 horse-power. Two of these engines drive the fan which expels the snow. The third one connects direct with the auger, which draws the snow into the cylindrical case in which the fans revolve. The discharge-pipe is 33 inches square, the spout being 14 feet above the rails. This throws the snow almost perpendicularly for 30 feet before it begins to curve over in its fall, clearing the telegraph poles with ease. It is provided with the largest Baldwin locomotive boiler for consolidated engines, the whole length of the boiler being 28 feet having 1500 feet of heating surface. It has a 12-foot fire-box and 185 flues 2 inches by 14 feet. It has a flanger on the front end which works by air and gathers the snow from the center of the track and from each side of the rails, taking it into the inner portion of the plow, whence it is expelled through the spout on the top, leaving a perfectly flanged rail. The trucks are extra heavily built, having 5½ by 8 journals. The plow weighs 75 tons 300 pounds. It is entirely under the control of the engineer, who stands at the front end, on the inside, and operates the throttles and communicates with the pushing engineer by the use of his whistle, without having any gongs, signals or bells, as is customary on rotary plows. The engines are capable of traveling 700 revolutions per minute, and being connected directly with the fan and auger it is possible to revolve them with the same rapidity.

Jones & Loughlins, Limited, are making preparations to manufacture 12 and 15 inch steel beams at their American Iron and Steel Works, Pittsburgh. The rolls have been ready for some time and are now being put in place. In a very few days the new beams will be turned out. They are also preparing rolls for a number of additional shapes, such as Zs, channels, angles and tees, in order to complete their line of structural material. They will then make everything but 20-inch beams. The Zs are used for steel columns, now coming into use so extensively for buildings, displacing cast-iron columns. Four Zs are bolted together, with a plate running up the center. These columns are intended to be surrounded with fire-proofing material, and are then circular in appearance, the steelwork being completely concealed.

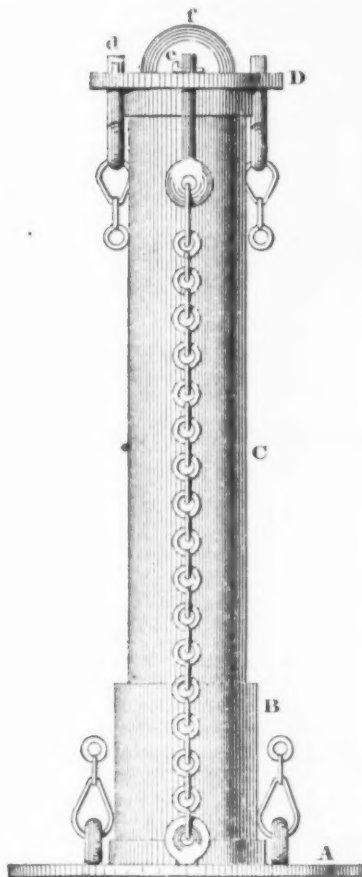
The Red Rock Copper Company, of Arizona, whose main office is at 53 Dearborn street, Chicago, will be at work smelting copper by March 1st, with their new 40-ton water-jacket furnace. This is a new enterprise in every respect.

Contracts for the Criminal Court Building, adjacent to the Tombs, were awarded by the Sinking Fund Commissioners as follows: Dawson & Archer, mason-work, \$820,000; Jackson Architectural Iron Works, ironwork, \$284,925; P. K. Lantry, carpenter-work, \$161,000; James Fay, plumbing, drainage and gas-fitting, \$11,775. Total, \$1,277,700. The work is to be finished within 500 days.

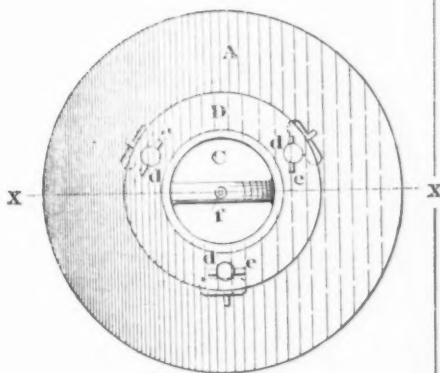


### Supporting Wire During Annealing.

The accompanying drawings show a device invented by C. E. Matteson, of Allentown, Pa., and in operation for some time at the works of the Iowa Barb Wire Company of that city by means of which coils or bundles of wire may be readily placed in and taken out of the annealing pot in which, during the process of annealing,



Elevation.



Device for Supporting Wire During Annealing.—Plan.

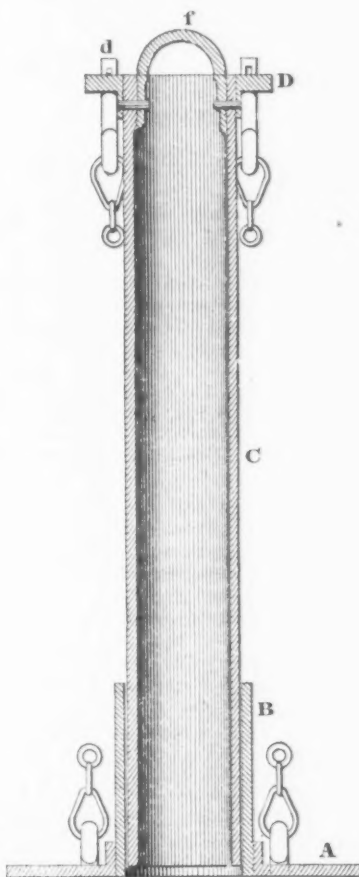
they are held away from the sides in order that the wire may be uniformly treated. The column C is formed with an upper flange D and its lower end fits freely in the sleeve B. It is connected to the bare plate A by chains securely fastened to the bare plate, but removably connected with the flange. The upper ends of the chains terminate in pins d which pass through holes in the flange and are kept in place by the keys e. The whole device is moved about as may be necessary by means of a crane to which the ring f may be attached.

To arrange the device for use the column is placed in the sleeve, the chains are connected to the flange, and then coils of

wire are placed over the column outside of the chains, when the apparatus is lifted from the floor and lowered into the annealing pot. It is evident that, if desirable, the coils of iron can be placed on the column after it has been put in the pot. As the wires do not touch the sides of the pot they are subjected throughout to the same degree of heat for the same length of time. After the wire has been annealed the apparatus is lifted from the pot and placed on the floor to cool. The chains are then loosened from the flange to permit the removal of the column, when the coils are left standing on the base.

### Earth Oil for Fuel.

The Underwriters' Association of the Middle Department has adopted the following permit and rules for the use of earth oil for fuel without gravity pressure: Permission is granted to use earth oil for fuel, upon the following express con-



Section on Line X X.

ditions only, agreement to observe which on the part of the assured is hereby made a warranty:

1. Tank for storage of oil supply shall be of boiler iron, having proper ventilation for the escape of inflammable vapors, and located not less than 100 feet from the risk described, if wholly underground, or 200 feet if wholly or in part above ground, and shall be so placed that the highest point in said oil supply shall be lower than the furnace where such oil is to be burned or converted for burning.

2. The pipe used for conveying oil to said furnace to be so laid that when not in use the flow of oil, if any, will be away from the premises and back to the storage tank; it being the intention of the parties hereto to provide against the conveying of oil to the place of burning by gravity pressure or any other process, from a supply higher than the place of use thereof.

3. It is further stipulated that if said storage supply tank is wholly or partly

above ground, it shall not be located within 100 feet of any other building more than one story high, and shall be surrounded by a wall or earth embankment of sufficient capacity to contain the contents of said tank in case of leakage or bursting.

4. A stop-cock in all cases to be placed in the supply-pipe where pipe leaves the tank, that in case of accident to the pipe the supply can be shut off at tank. At the burner the supply-pipe shall be furnished with a stop-cock, with an opening no larger in any case than  $\frac{1}{2}$  inch in diameter, so that under no circumstances the flow of oil under the boiler can be greater than can be consumed, thus preventing an overflow from flooding the fire-box or arch with oil.

5. Where the system is one using retorted gas from crude petroleum, the retort shall be inclosed in a brick building located at least 25 feet from any other building.

The foregoing conditions being at all times complied with, this permit is to remain in force free of charge.

6. Where storage tank is located less than 100 and not less than 50 feet of risk, as provided in Rules 1 and 3, the extra charge will be not less than 25 cents per \$100.

7. Location of storage tank within 50 feet of risk, or the use of oil by direct gravity pressure, will be regarded as prohibitory.

**A Pleasant Custom.**—An occurrence a little out of the ordinary took place at the foundry and machine shops of William B. Scaife & Sons, Pittsburgh, last week. It was the presenting to five of their employees who have been with them 25 years a beautiful silver tea set of 15 pieces. The business of the firm was established in 1842, and since that time every man completing 25 years' service in their employ has been the recipient of the above gift. The silver sets, each piece of which was engraved with the name of the gentleman receiving it and the date upon which he entered the employ of the firm, was accompanied by the following letter:

"Dear Sir: In accordance with the custom established by our father, to present to those who have been in our employ 25 years, we send you herewith a silver service as a token by which you and your family may now, and in days to come, know of the pleasant and harmonious relations that have existed between us for a quarter of a century. That these pleasant conditions may continue to exist, and this token may recall to your mind many happy days and years, we are

"Very truly yours,  
"WM. B. SCAIFE & SONS."

A new Bessemer ore region is to be opened in the spring. It lies in Itaska County, Minn., west of the Vermilion region. Minneapolis capitalists are the owners, and they are now engaged in the work of development. They talk of erecting furnaces at Minneapolis to smelt the ore. The railroad question is one which is of special importance in this new enterprise. There is only one outlet in Minneapolis at present and one via the Duluth and Winnipeg and the St. Paul and Duluth roads. An entirely new air line from Minneapolis is under consideration.

Freight rates on coke per ton of 2000 pounds from the Connellsville region, which includes any part of it, to points of consumption, are as follows:

To Pittsburgh.....	\$0.70
To Mahoning and Shenango valleys.....	1.35
To Cleveland, Ohio.....	1.70
To Buffalo, N. Y.....	2.25
To Detroit, Mich.....	2.35
To Cincinnati, Ohio.....	2.65
To Louisville, Ky.....	3.20
To Chicago, Ill.....	2.75
To Milwaukee, Wis.....	2.85
To St. Louis, Mo.....	3.35
To East St. Louis.....	3.20

### Three-Cylinder Boring Machine.

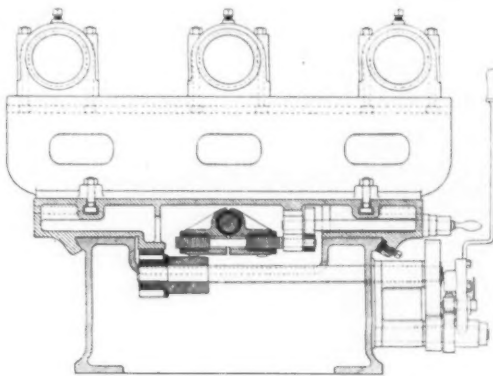
This machine was designed by the Universal Radial Drill Company, of Cincinnati, Ohio, for boring the three cylinders of the Triumph compound engine, illustrated in our issue of last week. It has capacity and range suitable for seven sizes, ranging in diameter from 4-inch high-pressure and 8-inch low-pressure to 10-inch high-pressure and 20-inch low-pressure. The bars are adjustable between centers from 10 to 22 inches, spacing blocks being provided for keeping standard distances.

A cutter-head, containing places for three roughing tools, three finishing tools, chamfering and one counterboring tool, for boring low-pressure cylinders, is carried by each boring bar. The high-pressure cylinders are bored by double-end cutters inserted in bars direct. Each bar is bolted to a spindle which is driven by worm gearing, giving a very smooth and even motion to bar. The cylinders are secured to suitable saddle blocks bolted to the carriage. The feed is by screw and open and close nut in carriage. The feed arrangement is driven from a worm shaft-gear on the front of the headstock, through an idler to a pair of change gears,

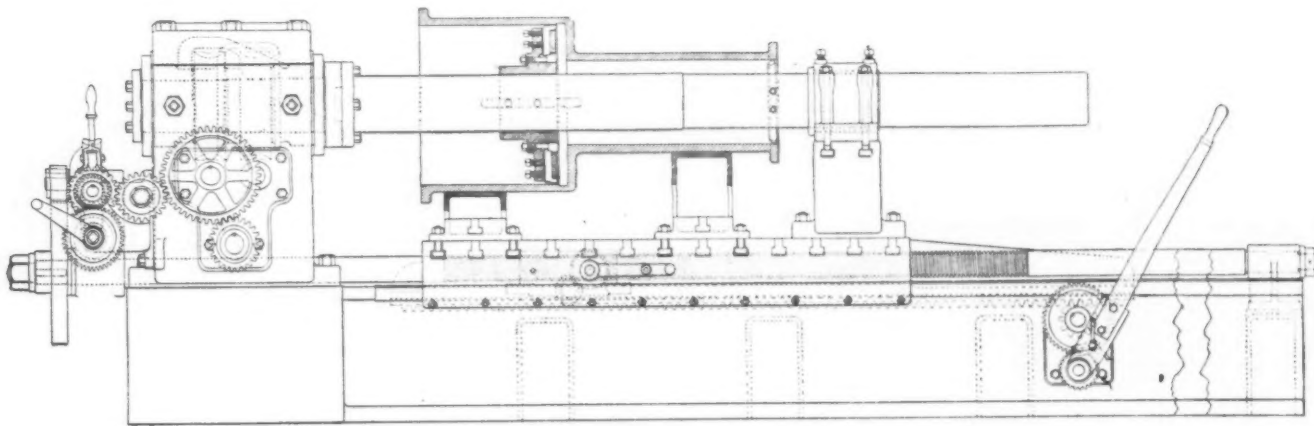
inches diameter. Carriage is 4 feet wide by 5 feet long. The carriage has also rack, pinion and ratchet for movement. Total weight of machine is about 20,000 pounds.

A Kansas City dispatch of the 13th inst. stated that J. M. Phillips, of New York, representing the Merchants' River Line Navigation Company, was en route to

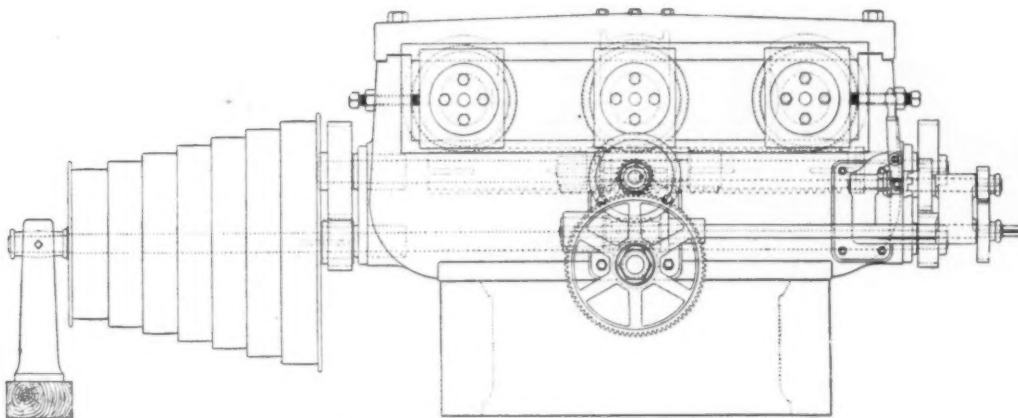
duction of two thirds on the present rate by rail. It is understood that the Inman Line is backing the enterprise with the purpose of securing an inlet from the seaboard by which it can compete for the export grain trade of the Northwest. Other heavy stockholders are H. M. Hodgson, Joseph Keeling and the Pittsburgh Coal and Mining Company, all coal dealers of Pittsburgh, who desire to have cheap



Section through Bed and Carriage, Showing Screw and Nut.



Front Elevation.



End Elevation.

### THREE-CYLINDER BORING MACHINE.

which are made reversible to give roughing and finishing feeds, which are respectively  $\frac{1}{16}$  inch and  $\frac{3}{16}$  inch per revolution of boring bar.

Following are some of the principal dimensions of machine: Bed, 40 inches wide by 14 feet long. Worm-wheel, 13 inches diameter, 2-inch pitch, double cut. Driving cone has seven grades for 4-inch belt, largest diameter being 30 inches, the cone being so proportioned as to give uniform speed for different sizes. Feed screw, 3

Omaha, where final arrangements are to be made for establishing a river freight line from that place to Pittsburgh, Pa. The line is to be put into operation within the year. It will consist of 60 light-draft river steamers and 300 barges. Two steamers with their tows will leave each terminus daily, the trip being made in 15 days, with stops at all principal river points. The rates on freight will be 15 cents per 100 pounds weight on all shipments of over 1000 pounds. This is a re-

transportation of their product from the mines to the West. Other stockholders are merchants in New York, Louisville and St. Louis. The enterprise is capitalized for \$5,000,000, 50,000 shares of a par value of \$100.

The Chilean Government has signed a contract with George Phillips for the construction of a railroad to connect all the nitrate beds with the seaport of Antofagasta.



## THE WEEK.

The Inman Line steamship *City of Paris* will soon have three splendid new twin-screw competitors. They are the *Majestic* of the White Star Line, *La Touraine* of the French Line, to be launched next month, and the *Normania* of the Hamburg American Line.

Dingley's bill exempting American coastwise sailing vessels piloted by their licensed masters or by a United States pilot from the obligation to pay State pilots for services not rendered has been reported favorably by the House Committee to whom it was referred.

Justice O'Brien, of the Supreme Court, has handed down a decision making permanent the preliminary injunction granted by Justice Ingraham on January 9, restraining the Sugar Trust "from paying any moneys or issuing further certificates in the way of dividends, or from selling, or in any manner parting with, any of the assets, property or moneys coming into their hands by reason of the deed of trust executed between the parties composing the 'Sugar Trust.'" The action was brought by Henry Winthrop Gray, as receiver of the North River Sugar Refining Company, against the De Castro & Donner Sugar Refining Company and others, on allegations among others that the sugar refineries company were preparing to transfer the trust or partnership assets beyond the jurisdiction of the court to a corporation organized under the laws of the State of Connecticut in May last.

The Chilean Government has contracted with the English Pacific Steam Navigation Company to maintain first-class steam communication with foreign ports.

The annual banquet of the Chamber of Commerce of Atlanta was attended by the president of the New York Chamber of Commerce and many other gentlemen from the North. William E. Russell, of Boston, spoke of the marvelous recovery of the South from the impoverished and exhausted condition in which it was left at the close of the Civil War. The census of 1870 showed a loss of \$2,100,000,000 in the assessed value of the South as compared with the census of 1860, but the increase in values from 1880 to 1890 far offsets that shrinkage. In 1880 the valuation was \$2,913,436,095, but in December, 1890, it amounted to the noble figure of \$4,220,166,400. In that decade the railroad mileage of the South increased from 19,431 to 40,250 miles, the yield of cotton from 5,755,359 to 7,250,000 bales, and the capital of national banks jumped from \$45,597,730 to \$76,454,500. The number of new industrial enterprises entered into the past four years footed up about 14,000, and the South might truly be said to have begun "a vigorous prosecution of the pursuits of peace."

The growing importance of the rubber trade in Rhode Island has led to an arrangement for direct importations from Para, and hereafter the steamships of the Booth line to Brazil will discharge a part of their cargo in Providence for the Woonsocket Rubber Company before arriving in New York.

The canned goods packers have formed a National Canning Association, L. G. Seager, of Gilman, Iowa, president.

A bill to abolish the duty on American corn was defeated in the Canadian Parliament by a large majority.

Senator Evarts has introduced a bill providing for the appointment of commissioners who shall be charged with the erection and construction of a new Custom-House building in New York, and shall have full power to purchase all material

and employ all labor in connection therewith. The bill appropriates \$7,500,000 for the purchase of the site and the erection of the buildings, the present Custom-House property to be sold for not less than \$3,000,000.

A tidal wave of prosperity is running up the Delaware River. In the several shipyards on the river no less than \$10,000,000 worth of vessels were turned out last year, and the present year promises to be even more prosperous, as the yards have work ahead for months to come.

The territories of Wyoming and Idaho are reported as having the requisite population for admittance as full-fledged States.

Englishmen are reported to have invested in the rubber business in Trenton, N. J., to the extent of \$1,000,000.

A contract for a portion of the Croton Reservoir, known as Reservoir M, on the Teticus River, was awarded to Washburn, Shaler & Washburn for \$933,065. Division Engineer Charles S. Gowen will have charge of the work.

The junction of the Chinese telegraphs with those of France in Tonquin, and with the Russian lines at Kiathka, is expected in a few months.

Minnesota papers manifest a deep interest in the proposed development of a mammoth water power on the St. Louis River at Fond du Lac, for the manufacture of wood pulp. Extensive transfers of real estate are being made preparatory to the construction of dams and erection of mills. Jay Cooke, the president of the Duluth Water Power Company, and the Northern Pacific Railroad Company are among the prime movers.

The Italian Government marine subsidies for 1889 amount to \$800,000, mostly divided between 29 steamers and 395 sailing vessels.

The effect of the opening of the East River Bridge upon the ferries is a profitable subject for contemplation, so far as it relates to the maintenance of communication by bridge, tunnel or boats between New York City and its environs. The loss of revenue to the Union Ferry Company on account of the bridge complications has been so serious that some of the stockholders favor the transfer of the ferry lease to the city of Brooklyn when it expires, a short time hence. The Fulton Ferry receipts, which have suffered most, have always been the principal reliance in maintaining the weaker ferries, while the Wall street ferry has absorbed a round million of dollars beyond its income during the last thirty years. It has become a question whether the latter shall be abandoned or become a charge to the general taxpayer. Up to the present time the East River ferry facilities have been maintained at the old standard of efficiency. The latest report is that the Union Ferry Company has passed into other hands.

Valuable beds of iron ore and coal will be opened up in Walker County, Ga., by the construction of a railroad 25 miles in length, from Chattanooga, just put under contract.

There are signs that iron shipbuilding has been overdone. A Glasgow paper notices the almost entire absence of new orders.

The Toronto University buildings caught fire from the overturning of a lamp, and two sides of the quadrangular structure were laid in ashes, with an estimated loss of \$500,000.

Don Mauro Fernandez, Minister of Finance and Public Instruction in Costa Rica, says the first steps toward a federation of Central American States are to be taken on the 15th of September next,

when delegates from each Central American State will meet in convention and elect a president. It is intended that the President of each State shall have power something like that vested in the Governors of the States in this country.

The electric light subways will hereafter be built and owned by the Standard Electrical Subway Company, to whom a contract for building 30 miles was awarded on Monday by the Board of Electrical Control on motion of Mayor Grant. Expeditious work is necessary before the \$1,000,000 available for new pavements is expended.

The Canadian Pacific will run trains regularly into Detroit within a month, and during the spring is expected to enter Chicago on the tracks of the Wabash road, enabling it to compete for New England traffic.

The steamships of the Furness Line to London, which have been crowded out from Baltimore by rival companies, are now loading from Newport News. Philadelphia put in a strong bid for their business.

New \$500,000 cotton mills are to be erected at Huntington, Ark., and Denison, Texas. Machinery for the mills at Florence, Ala., will cost \$150,000. In North Carolina and other States there are similar movements, stimulated in several instances by New England capital.

The Knickerbocker Ice Company, of New York, will cut 1,500,000 tons of ice from lakes in the Berkshire Hills in Massachusetts. The ice is pure and 14 inches thick. Other companies are finding good ice in Maine. The ice famine in the West will be relieved from Canada.

Fruit growers in California are seriously embarrassed by the loss of coolie labor, which finds more remunerative employment in factories and in domestic service than in agricultural pursuits.

The pioneer double-decked ferry-boat for use by the Pennsylvania Railroad Company in connection with the elevated system of roads in Jersey City, and to correspond with the contemplated bridge across West street at the ferry landing, will be at once prepared for service. She is known as the iron-hulled boat New Brunswick, which will be rebuilt from the guards upward.

A sharp struggle for the possession of the defunct Ohio and Chesapeake canal is taking place in the Maryland Legislature. In expectation of success the new competitors for the trade of the Cumberland coal region are establishing extensive coal ports and terminals on the Patapsco, with deep water facilities.

There is a fair prospect that Seattle, the rising seaport in Washington, will be connected with the Northern Pacific Railroad and British Columbia before the end of the year.

The Russian Government is contracting with home manufacturers for unprecedented quantities of steel rails, all to be finished by 1892. The new lines are on the Austrian frontier and through all the Southwest.

Siam is about to build a railway east from Bangkok, extending about 440 miles, Englishmen to furnish the capital.

A London dispatch says that the British Government has secured the patent for a new artillery weapon invented by Driggs and Schweder.

The recent election in Hawaii resulted in a sweeping victory for the native party, headed by Wilcox, the revolutionary leader who not long ago was tried for treason but acquitted, as alleged, from fear of a popular uprising. Wilcox is said to have the sympathy of King

Kalakaua and to have for his object the overthrow of foreign supremacy. His success, however, is confined to Oahu, the main island.

One of the latest novelties of travel is the organization of a Transatlantic Indemnity Baggage Checking Company. The charge from New York to London will not be over \$1.50, and enables the passenger to avoid contact with porters and baggagemen of every description, who would require double that amount in fees.

The Cleveland, Ohio, manual training school recently had an interesting exhibition. In the forge department there were 18 boys making choice and various useful articles, giving evidence of acquired skill. In the machine shop at least 12 boys were at work with the shapers, lathes, planers, drill presses and grinding machines, making steam engines and machinists' tools. Among their products was a 24 horse-power engine, several electric motors, &c. There were a number of graduates well qualified for responsible positions.

Master Workman T. V. Powderly advertises his property in Scranton for sale, as he will remove to Philadelphia.

Forcible arguments in favor of special appropriations for the improvement of the "Soo" Canal were made recently before the House Committee on Rivers and Harbors, sitting in Washington. H. W. Seymour, of Sault Ste. Marie, Col. C. H. Graves, of Duluth, and Geo. Ely, of Cleveland, appeared as delegates representing the commerce of Lake Superior. Mr. Ely argued that a reduction in the cost of transportation was a direct benefit to all the people of the country. A few years ago it cost \$3 a ton to bring ore from Lake Superior; now it was but \$1.25 a ton, owing to the increased size of vessels rendered possible by the present lock, which was opened in 1881. The new lock, allowing still greater draft, would unquestionably reduce freights not less than 25 per cent. more. As illustrating the increasing proportions of this vast business, he said that while during last season 300,000 tons of Lake Superior ore were shipped by way of Buffalo to the furnaces of the Lehigh Valley, contracts already made for the season of 1890 aggregated more than 700,000 tons. The full amount of the engineer's estimate is as follows: Hay Lake Channel, \$1,684,115; St. Mary's River at the falls, \$3,738,864.

The capitals of Honduras and Costa Rica are both to be connected by railroads with the Pacific Coast.

The shipping trade of New York is in a highly satisfactory condition, vessel property in almost any shape being a remunerative investment. This is especially true of ocean shipping and the present favorable conditions have prevailed quite uniformly since the improvement began, 18 months ago. To Liverpool flour room was offered in April, 1888, by the fast lines at 2/6 per ton; oilcake was quoted at 1/; provisions were offered at 5/, and cheese at 12/6. On Saturday last Liverpool grain room was held at 5 1/4 per bushel; flour was quoted at 20/, which is an advance of 17/6 from the April, 1888, figures; oilcake room commanded 17/6, an advance of 16/6; provisions showed an advance of 22/6 to 30/ to 27/6 to 35/, and cheese, which was quoted on Saturday at 37/6 to 40/, indicated an advance of 25/ to 27/6 per ton. The advance in rates to other ports is almost as strong. Petroleum freights after a temporary spurt to high figures have settled down to about 2/6 for barrel vessels, the reaction being due to the increased fleet of tank oil carriers. Throughout the world tonnage is now fairly well employed, but the excessive amount of shipbuilding noticed up to a recent date is expected to have a depressing effect.

## MANUFACTURING.

### Iron and Steel.

The new Bessemer steel department of the Oliver Iron and Steel Company, located at Twenty-sixth and Railroad streets, Pittsburgh, will be ready for operation within the next 30 days. The work of placing the two 5-ton converters in position, building the soaking pits and placing the new blooming roll train in position is being pushed to the utmost.

Fayette Brown, receiver of Brown, Bonnell & Co., of Youngstown, has received permission from the United States Court in Cleveland to commence suit against the Mahoning Gas Fuel Company, of that city for failure to supply the rolling mill with natural gas as per contract. Damages in a large sum will be asked.

The annual meeting of the stockholders of the Pennsylvania Construction Company was held at the office of the company at Pittsburgh on the 10th inst. The report of the treasurer was an exceedingly satisfactory exhibit of the finances of the concern. The capital stock is \$50,000. The surplus for the period ending January 31, 1889, was \$25,422.21; the profits for the year ending January 31, 1890, were \$25,120.96; making a total surplus up to this date of \$50,543.17. Deduct \$5000, the amount of an approximate dividend of 10 per cent., and the net surplus is \$45,543.17. For directors for the ensuing year the following stockholders were elected: Jacob Reymer, Edward House, William Voegtly, J. A. Butz and C. Yeager.

The Springfield Iron Company, of Springfield, Ill., have added to their plant a 12-inch guide mill, which is provided with a Siemens heating furnace, with a hearth 20 x 8 feet. This mill makes the fifth train of rolls which the company now have running double turn on bar iron and splice bars.

The *Marquette Mining Journal* states that considerable repair work has been going on at the old Chocolay Furnace, and there is some probability that operations will soon be resumed there.

The blast furnace of the Bellaire Nail Works, at Bellaire, Ohio, has been blown out for relining and other repairs.

At a meeting of the stockholders of the Belmont Nail Company, of Wheeling, W. Va., held last week, it was decided to increase the capital stock of the concern to the extent of \$150,000.

The Union Iron Works, of Erie, Pa., have been chartered, with a capital stock of \$150,000. The directors are T. E. Cleveland, L. G. Skinner and William Hardwick.

The new rolling mills of the Pennsylvania Bolt and Nut Company, at Lebanon, Pa., are nearing completion. They comprise three trains, 16 inch, 10 inch and 8 inch, and five heating furnaces with a daily capacity of 100 tons. This firm have purchased all the machinery of the Iron City Mfg. Company, of Pittsburgh, and will add same to their present plant. This will greatly increase their output of bolts and nuts for bridge work.

The item published in our issue of last week regarding the contract of D. R. Lean, for the construction of the plant of the Monongahela Furnace Company, at McKeesport, Pa., contained several errors. We stated that the furnaces would have 20-foot boilers, while it should have read 20-foot boshes. The height of the stoves was given as 22 feet in diameter by 72 feet

high. It should have read 21 feet in diameter by 78 feet high.

Furnace G, of Carnegie Bros. & Co., Limited, at Braddock, Pa., which was blown out on the 15th of last December for the purpose of relining has been put in blast again. Miss Hattie Lander, daughter of Mr. George Lander, a member of the Carnegie firm, applied the match.

Furnace No. 2, of the Chestnut Hill Iron Ore Company, at Columbia, Lancaster County, Pa., was put in operation on the 7th inst. after several years' idleness. The furnace will manufacture Bessemer iron.

The crucible steel works of Martin Joyce at Coraopolis, on the Pittsburgh and Lake Erie Railroad, about 10 miles below Pittsburgh, are about ready to commence operations. Mr. Joyce first built a small crucible plant at Connellsville, Pa., last year, but it burned down shortly after being built. Mr. Joyce died last month, but the business will be carried on by his sons.

It is proposed to establish a new venture at Monongahela City, Pa., to be known as the Monongahela Steel Company. The capital is to be \$100,000, all of which is said to be subscribed. The parties composing the company are said to possess considerable experience in the iron business and are determined to push the project to completion.

It is announced that the directors of the Reading Iron Works, at a meeting held in Philadelphia, voted to increase the capital stock of the company from \$300,000 to \$1,000,000. The increase is rendered necessary by the largely increased business of the concern.

The new blooming mill now being put in by Jones & Laughlins, Limited, Pittsburgh, Pa., will be served by a six-hole vertical soaking pit built from plans furnished by the Alex Laughlin Company, Cleveland, Ohio. While such large pits have not been generally adopted, Messrs Jones & Laughlins have had one the same size in successful operation for several years. This was a modification of the older Hainsworth form of furnace, arranged by P. Barnes, in charge of their steel department. The new pit will have incorporated in it the features of the old one, as well as the improvements which the Alex Laughlin Company have recently made in this class of furnaces. It has a capacity to reheat 600 tons of hot ingots in 24 hours with ease.

Nashville Furnace, at West Nashville, Tenn., has been blown out for repairs. The second furnace is to be blown in at an early date.

The rolling mill of the Minnesota Car Company, at West Duluth, Minn., was burned on Saturday evening.

The Bethlehem Iron Company, at Bethlehem, Pa., have advanced the wages of their employees 15 per cent.

New blowing engines have been ordered for the Anniston coke furnaces, at Anniston, Ala.

The stockholders of the Illinois Steel Company held their meeting at the general offices in Chicago on the 12th inst. The old board of directors were re-elected, as follows: Orrin W. Potter, Nathaniel Thayer, William J. Rotch, Francis Bartlett, Edward C. Potter, A. J. Forbes-Leith, W. R. Stirling, Norman Williams, H. H. Porter, Jay C. Morse and Marshall Field. The Executive Committee was also re-elected, as follows: O. W. Potter, chairman; Jay C. Morse, A. J. Forbes-Leith, W. R. Stirling and E. C. Potter. In conse-



quence of the expected absence of Mr. Forbes-Leith, who proposes to be in Europe a very great deal of the coming year, J. C. Morse was elected president. R. C. Hannah has heretofore been secretary and treasurer of the company, but he also declined re-election. The duties of these two offices were stated by the management to be too great for performance by one individual and they were accordingly divided. Permanent officers were not selected to fill these positions, but for the present J. C. Stirling will be acting treasurer and B. W. Perkins will be acting secretary. The office at 46 Wall street, New York, will be continued, but in the future the president's headquarters will be in Chicago, where Mr. Morse has other large interests which require his personal attention. The management of the company, it will be observed, continues the same as it has heretofore been, the changes made being on the ground of personal convenience and having no other significance.

#### Machinery.

The Union Foundry and Machine Company, of Pittsburgh, have been chartered, with a capital stock of \$25,000. The directors are James M. Bailey and W. Friend, of Pittsburgh, and Frank H. Zimmers, of Allegheny. It is the intention of this company to erect a large foundry adjacent to the plant of the Clinton Iron and Steel Company on the South Side, Pittsburgh.

On the 4th inst. the Aetna Machine Company, of Warren, Ohio, received an order from Westerman & Co., of Lockport, N. Y., for a 550 horse-power engine to drive a train of rolls in their mills at Lockport, and on the 10th inst. received an order from Ralph J. Wick, treasurer of the Lancaster Iron Company, Lancaster, Ohio, for a 550 horse-power engine to drive a train of rolls in the mills at Lancaster. This is the second engine sold to the Lancaster Company and the third one to Mr. Wick.

John Mohr & Son, manufacturers of boilers, at 32 Illinois street, Chicago, are very busy at present, being crowded with work for the next six months. They are manufacturing all the boilers for the new blast furnaces now being put up for the Illinois Steel Company. The character of the work being turned out by this firm has recently included so much heavy riveting that it was found necessary to replace their hydraulic riveter with a much heavier one. The old riveter exerted a pressure of 45 tons on the head of a rivet. The new riveter is capable of exerting a pressure of 70 tons, and will instantly set a rivet in plates 1 inch to 1½ inches in thickness. The old riveter has been sold to St. Louis parties. The firm have recently purchased a large tract of land on the Calumet River, at South Chicago, where they propose to put up a large branch works. The branch establishment will probably be engaged on stock boilers and marine work.

Wharton McKnight, proprietor of the Anchor Foundry and Machine Works, at Pittsburgh, is making a number of extensive improvements to his plant. The erecting department is being enlarged by the addition of a building 40 feet wide, 90 feet long and 30 feet high. In it will be placed a 20-ton overhead traveling crane built by the Phoenix Iron Works Company, of Cleveland, Ohio. A number of other minor improvements are also being made. Among numerous contracts Mr. McKnight has on hand is one for a 24 x 30 engine for the new butt-weld department of the National Tube Works Company, at McKeesport, Pa.; a new rail-tipping machine for the Edgar Thomson Steel Works, of Carnegie Bros. & Co., Limited, at Braddock, Pa., and a pushing machine

for the pipe mill of Spang, Chalfant & Co., at Etna, Pa. A number of other contracts are on hand, which will keep the firm fully employed for some time to come.

The Gas and Gasoline Engine and Motor Company, of which Louis Wahl, of Chicago, is president, have purchased a site within the city limits of Aurora, Ill., and will locate their manufacturing plant there. Shops are to be erected in the spring.

William Tod & Co., founders and machinists, of Youngstown, Ohio, being compelled by the accumulation of orders to run their works double turn, are putting in an electric light plant.

The Carroll-Porter Boiler and Tank Company, of Pittsburgh, have been chartered with a capital stock of \$50,000. The company will engage in the manufacture and sale of steam boilers, oil tanks, &c. The directors are James M. Porter, of Sewickley, and James S. McCord and W. C. Carroll, of Allegheny.

Hooker-Colville Steam Pump Works, St. Louis, Mo., have just secured the contract to supply Anheuser-Busch Brewing Association with three boiler feed pumps to supply boilers of 3000 horse-power, also for the same concern one large cold water pump.

The Niles Tool Works, of Hamilton, Ohio, have finished and are now preparing for shipment an immense plate bending roll that is to be sent to the navy yard at Mare Island, San Francisco. The tremendous machine weighs 250 tons and the freight will be something over \$9000. The Cincinnati, Hamilton and Dayton Railroad have had a number of special flat cars built for the transportation of the load, and the whole train will be run through to the coast as a special. It is the largest single shipment and the finest machine that ever left Hamilton, where some magnificent machinery is being built.

E. P. Allis & Co., proprietors of the Reliance Iron Works, Milwaukee, are about completing their arrangements for incorporating under the name of the Edward P. Allis Company, who will succeed the directors under the will in the management of the business. The directors are the heirs and will be the heavy stockholders and officers in the corporation, consequently no material change will be made in the personnel of the company. The entire plant is fully employed and sufficient work is contracted for to keep them so for the next 12 months. They have under way seven engines of 1000 horse-power each for the West End City Railway Company, of Boston; five pumping engines for the city of Chicago, to cost \$369,000; one direct pumping engine, 600 tons, for the Chapin Mining Company, said to be the largest of the kind ever built; one compound pumping engine for Albany, N. Y.; an order for pumping engines from the American Water Works, at Omaha, which amounts to \$120,000; three blowing engines for the Joliet plant of the Illinois Steel Company; triple-expansion engine for Massachusetts Institute of Technology, and many other orders for engines and mining machinery for new and old companies in all parts of the United States.

The McLagon Foundry Company, New Haven, Conn., manufacturers of the New Haven brick machine, have recently acquired the machine shop, corner of Whitney avenue and Audubon street, formerly occupied by F. D. Buttricks, which has been added to their plant, to be run under the name of Audubon Machine Works. In addition to a general machine business, they have established a department for electrical machinery and attachments.

The Westinghouse Electric Company, of Pittsburgh, have secured a contract from the Tokato Company, of Schidznoka, Japan, to supply an electric plant complete to furnish 5000 lights. This is the initial electric plant for that country, but many others are expected to be secured when electric lighting has once been introduced.

#### Hardware.

Scheeler & Sons (Buffalo Wire Works) have recently made accessions to their machinery and extended their facilities for the manufacture of wire goods. This company have occupied the same location for upward of 30 years. The works are a 4-story brick which has about 20,000 square feet of floor space. The first floor is devoted to office and sales rooms, where they carry in large variety wire cloth and goods for all classes of trade and manufactures. To the rear on first floor is also the shop, where office, bank and desk railings, window guards, elevator inclosures and numerous other articles, embracing molders, riddles, masons' screens and sieves for all uses, are made. The second floor is the stockroom, containing supplies of iron and galvanized wire cloth, window screen cloth, hexagon netting, &c. On the third and fourth floors there are a large number of looms which are occupied in weaving wire cloth, coarse and fine, heavy and light, of brass, copper, tinned and iron wire. A portion of the upper floor is for the purpose of the painters and decorators of this line of goods. A descriptive catalogue of the products of these works is issued by the company.

The New Haven Wire Goods Company, New Haven, Conn., established May, 1888, advise us that they have outgrown their old quarters and moved into a much larger building on State street, where with new machinery their capacity has been greatly increased. The company refer to the fact that business has grown beyond their expectations in so short a time as being due to the quality of their goods. They are constantly adding new goods to their line. R. C. Loveridge is president of the company, W. C. Bradley, secretary and treasurer and W. C. Perkins superintendent.

Hubbard & Co., the well-known manufacturers, of Pittsburgh, have removed their offices from the Hamilton Building to the rooms occupied by the American Axe and Tool Company in the Westinghouse Building, in that city.

The International Carriage Company, builders of fine carriages, Buffalo, N. Y., have moved to their new works on Jewett avenue, Belt Line Railroad, Buffalo. These works are a four-story building of brick and stone, upon an area of 150 feet square. First floor is arranged for offices, show-rooms and storage; upper floors devoted to the various departments of the manufacture of fine carriages. The building is a model of excellence. It will be lighted, and fuel for furnace supplied by natural gas taken from a well upon the site. A 100 horse power Cooper's, Mount Vernon, Corliss engine and boiler is employed; a Bradley's new upright 200-pound hammer and a tire heater of same make are in use in the shops of these works. This firm recently received a contract to make 3000 carriages, an order so large as to be noteworthy.

The Muncie Novelty and Brass Company, Muncie, Ind., have purchased the plants, patents and business of the Muncie Pump Works. In addition to the line of goods heretofore produced by the pump works—namely, stock, curb and iron pumps, paper plugs and the Lightning fence machine, they state that they will manufacture many other valuable wooden novelties and specialties and solicit business from all desiring work done under contract in this line.

# The Iron Age

New York, Thursday, February 20, 1890.

DAVID WILLIAMS, - - - PUBLISHER AND PROPRIETOR.  
CHAS. KIRCHHOFF, JR., - EDITOR.  
GEO. W. COPE, - - - ASSOCIATE EDITOR, CHICAGO.  
RICHARD R. WILLIAMS - - HARDWARE EDITOR.  
JOHN S. KING, - - - BUSINESS MANAGER.

## The Iron Situation.

The signs are accumulating of another revival in the demand for iron and steel. In some sections, at least, consumers are drawing to the ends of supplies purchased during the rise of the closing months of last year. Weak speculators have been weeded out, so that the market is now again more directly under the control of manufacturers. At the highest prices established late last year comparatively little material was sold, so that as a matter of fact buyers are now about to pay really more for new supplies than they averaged on their former purchases. Having withheld from the market for close upon two months they find it stronger than the majority gave it credit for.

Those who have become accustomed to look to Wall street, which discounts the future furthest, for indications as to the probable course of values, have been following a very poor guide indeed. While the whole country is teeming with activity the speculators have been reduced to the occupation of cutting one another's throats. Business men throughout the country have been better employed than watching the ticker. The last crop of lambs is still freezing; a new one has not yet made its appearance. The result is that the duller place in the country is Wall street, while from every other quarter come reports of strained activity. The railroads continue as busy as is possible, earnings show steady increases, in some cases extraordinary in amounts. The leading industries, with the exception of anthracite coal mining, are fully engaged and are fairly prosperous. In some sections of the country there is exceptional activity in developing long dormant resources, the South and Northwest particularly taking the lead. Although enormous amounts of capital are being invested, the greater part of it of domestic origin, the money markets are fairly easy. So long as this condition of affairs lasts no serious decline can take place in the iron markets, while it will take but little to cause a further upward movement. The drop on the other side of the Atlantic, caused chiefly by the final closing out of speculative lines through the scarcity of money, does not as yet affect us, except in certain departments. We refer particularly to spiegeleisen and ferromanganese and to old material. There is some prospect that in some departments our relatively low prices will widen our markets. This is particularly true of the Canadian steel rail market. Already some round

orders have been placed, and others are under negotiation. The addition of about 75,000 tons to the order-books of our rail mills from that quarter would go far toward strengthening the position of the American mills. A relatively small increase in the rail demand for this year over last will turn the scale, added as it is to the rapidly growing consumption of steel for other purposes than rails.

Thus far the demand for structural work and private and Government ship-building has been very heavy. The larger cities are following the example of New and Brooklyn in developing schemes of rapid transit. The erection of large office buildings in our leading cities is taking a very heavy amount of iron and steel in the aggregate, while the replacement of wooden highway and railroad bridges is progressing rapidly.

All these facts are giving strength to the situation. It is true that they cannot be given numerical expression very readily, while those who argue for lower prices point to the enormous production of the country, which they are in a position to back with reliable statistics. We are sailing so close to the wind, however, and are carrying so large a spread of sail that the slightest flurry will drive us at a perilous speed. Let there be, through any cause, a suspension of the production of raw materials. Then the immediate result must be a scarcity of iron, reflected by a sharp advance. It is true that probably producers, being profitably employed, will do anything which is reasonable to avoid such a contingency. But workmen are not always reasonable, and there is some possibility of disturbances in some parts of the country. Viewing the situation generally it is difficult to escape the conclusion that it has in it the elements of a steady market for the near future, with the possibility of a renewed rise.

## An Able Western Labor Leader.

The Knights of Labor of Iowa held a meeting at Marshalltown, last week, to consider a number of public questions. Among the resolutions adopted was one requesting the Governor of Iowa to appoint State Master-Workman, J. K. Sovereign, the Commissioner of Labor Statistics. At this meeting Mr. Sovereign made an able address which is reported quite fully in the Western papers. It stamps its author as a man of more than ordinary ability. It is radical in its tone and decidedly aggressive, but is nevertheless worthy of careful perusal by those who desire to keep informed concerning movements among the workingmen. One of the best results of these modern organizations of labor is the development of leaders of thought among the workingmen themselves. A new race of practical thinkers has thus been created, who are capable of treating questions of great public concern from the standpoint of those who work with their hands, and thus very differently as compared with theorists and self-constituted statesmen. Among

other lofty sentiments, Mr. Sovereign gave expression to the following:

We ask for nothing which justly belongs to the rich, and covet none of the rights of capital. All we ask is the enjoyment of natural rights and natural liberty, and the rights are prior to all other rights, and even above the considerations of political government. All real rights are natural rights and all true liberty is natural liberty, and the highest aim of political government should be to throw the least possible restriction around the citizen in the enjoyment of these rights compatible with the rights of others and the well-being of society. But to-day there is prevalent poverty and enforced idleness in this land of plenty, and its cause can be traced to the administration of the government that by civil statute has legalized the violation of natural rights and natural liberty, and respected the crafty speculator above the industrious producer at courts of justice. The citizens of a truly just government relinquish no right except the right to do wrong.

The orator's strictures are here directed against trusts and the manner in which they appear to flourish notwithstanding the efforts to repress them. Proceeding further he voiced the sentiments of many workingmen in claiming that the industries of the nation are being concentrated in the hands of a few and that distributed business is dying out. It is singular how a man whose ability is shown in the grandeur of many of his utterances could allow himself to be deceived on such an important point. This is an era of great enterprises and of the consolidation of capital, it is true. But while consolidations have been made in many branches of industry, with the result of creating gigantic corporations such as were never before known, it is also true that individual enterprises are still springing up even in those very lines. The efforts of individuals cannot be repressed, if they have within them the elements of business shrewdness which are essential to the success of every concern, be it large or small. The most annoying competitor of a large establishment often proves to be not a rival of equal magnitude, but some small concerns with much less capital and operating under much less expense. Notwithstanding the huge corporations which are now to be found absorbing an important part of the trade in any line of business, the opportunities still exist for small concerns to gain a foothold, and they are doing it in almost every section, save where natural disadvantages originally overcome to some extent now make themselves too manifest.

But it is well for the cause of the workingmen that they are bringing forward such leaders as Mr. Sovereign, who think for themselves and have the ability to clearly express their thoughts. In the arena of public discussion light can be thrown upon half truths, and a clearer conception will then be formed by both sides as to the position occupied by either.

A gigantic strike of coal miners is being organized by the executive committee of the joint convention held in Columbus recently, to take effect May 1, unless an advance of 17 cents per ton is granted. The threat is to "shut down every mine we can in Pennsylvania, Ohio, Indiana and Illinois." Operators at present decline to talk about it.



## Imports and Exports in 1889.

The Bureau of Statistics has just issued its monthly statement, which includes the whole of the calendar year 1889. The figures possess some interest, since, to a moderate degree, they show the effect of the advance abroad and the consequent falling off in the quantities imported. Of course a comparison of the first with the second half of the year would better show this. We tabulate the data in iron and steel in Table I, having converted the figures into gross tons throughout.

The only striking increase has taken place in tin plates and in iron ore. Unfortunately, the returns do not specify how large a proportion of the pig iron imported was spiegel and ferromanganese. The latest official figures we have are those for the fiscal year ending June 30. According to them, the imports of pig iron in the fiscal year 1888 were 325,801 gross tons, of which 108,973 tons was spiegeleisen. In the fiscal year 1889 the imports had declined to 179,722 tons, of which 92,032 tons was spiegeleisen.

It will be observed that of the total imports of \$42,000,000, roughly one half is for tin plates. Wire rods and billets have already shown a falling off. Contracts for the latter were made early last year to a very considerable extent at low prices, and it was the delivery of this steel which brought the imports relatively high.

Our exports of iron and steel and the manufactures thereof show some gain. The details are submitted in the following table (II).

The gain in the exports of machinery is very satisfactory. In other lines there has also been some improvement, as the following table shows:

## Exports of Machinery.

Articles.	Values, 12 months ending Dec. 31.	
	1889.	1888.
<b>Agricultural Implements:</b>		
Horse-powers.....	\$14,910	\$5,304
Mowers and reapers, and parts of.....	2,332,296	1,541,469
Plows and cultivators, and parts of.....	943,228	504,431
All other, and parts of.....	956,545	708,411
<b>Totals.....</b>	<b>4,246,079</b>	<b>2,759,615</b>
<b>Brass, and manufactures of.</b>	<b>366,739</b>	<b>327,170</b>
<b>Clocks and watches:</b>		
Clocks, and parts of.....	1,330,994	1,061,867
Watches, and parts of.....	310,737	334,000
<b>Totals.....</b>	<b>1,641,731</b>	<b>1,395,867</b>
<b>Lead, and manufactures of.</b>	<b>161,814</b>	<b>194,216</b>
<b>Plated ware.....</b>	<b>537,449</b>	<b>530,577</b>
<b>Tin, manufactures of.....</b>	<b>255,100</b>	<b>243,477</b>

In metals, the export movement is exhibited in Table III.

Taken altogether, the trade movement during the fiscal year showed considerable improvement. Thus far the tendency has been further in our favor.

The Haytian Consulate gives notice to exporters of goods to Hayti that merchandise must be addressed to consignee responsible for import and other duties thereon, and makes other requirements in regard to the invoice and manifest.

## I.—Imports of Iron and Steel.

Articles.	Quantities, 12 months ending December 31.		Values, 12 months ending December 31.	
	1889.	1888.	1889.	1888.
<b>Iron and steel and manufactures of:</b>	<b>Gross tons.</b>	<b>Gross tons.</b>		
Iron ore.....	853,572	587,470	\$1,852,332	\$1,313,589
Pig iron.....	142,230	197,237	2,863,137	3,007,327
Scrap, fit only to be manufactured:				
Iron, wrought and cast.....	35,917	44,799	447,492	531,365
Steel.....	2,241	9,179	33,964	113,168
Bar iron, rolled or hammered.....	29,569	31,744	1,097,132	1,119,107
Bars, railway:				
Of iron.....	14	21	229	498
Of steel or in part of steel.....	6,202	63,016	163,110	1,534,662
Cotton ties or hoops, for baling purposes, of iron and steel.....	20,818	30,205	630,950	837,750
Hoop, band and scroll iron.....	7	196	291	7,042
Hoops, bands, strips, sheets and plates of steel.....	14,014	23,411	783,215	900,218
Ingots, blooms, slabs, billets and bars of steel and steel in forms not elsewhere specified.....	72,361	103,577	1,989,837	2,822,876
Sheet, plate and taggers iron.....	7,032	6,257	444,456	395,140
Tin plates,terne plates or taggers' tin.....	331,312	298,237	21,726,707	19,762,961
Wire rods (rivet, screw, nail and fence), round, in coils and loops, of iron or steel.....	73,768	101,813	2,412,278	3,127,876
Wire, and wire rope and strand, iron or steel.....	4,093	3,169	728,197	579,178
Manufactures of, n.e.s.:				
Anvils, axles and forgings, of iron or steel.....	1,399	1,177	179,254	170,016
Chains, of iron or steel.....	621	829	77,618	94,947
Cutlery.....			2,362,532	2,229,385
Files, file blanks, rasps and floats.....			69,155	62,864
Firearms.....			1,232,796	1,065,971
Machinery.....			2,829,635	1,966,839
Needles.....			279,244	284,000
All other.....			1,676,069	1,709,407
<b>Total, not including iron ore.....</b>			<b>\$42,027,296</b>	<b>\$42,311,689</b>

## II.—Exports of Iron and Steel.

Articles.	Quantities, 12 months ending December 31.		Values, 12 months ending December 31.	
	1889.	1888.	1889.	1888.
<b>Iron and steel, and manufactures of:</b>	<b>Tons.</b>	<b>Tons.</b>		
Iron ore.....		135		\$532
Pig iron.....	13,573	14,364	\$227,048	256,563
Band, hoop and scroll iron.....	13	35	993	2,819
Bar iron.....	779	586	52,341	40,749
Car-wheels.....	No. 11,360	10,194	101,162	91,328
Castings, n.e.s.....			432,396	327,582
Cutlery.....			105,245	99,586
Fire-arms.....			909,299	608,541
Ingots, bars and rods of steel.....	45	243	5,707	25,944
Locks, hinges and other builders' hardware.....			1,838,615	1,541,462
Machinery, n.e.s.....			8,222,904	6,672,094
Nails and spikes:				
Cut.....	5,266	5,429	282,458	312,629
Wire, wrought, horseshoe and all other, including tacks.....	856	599	169,313	136,600
Plates and sheets:				
Of iron.....	326	2,149	28,547	196,659
Of steel.....	43	35	4,173	3,905
Printing presses and parts of.....			277,900	180,514
Railroad bars or rails:				
Of iron.....	1,082	8	30,340	325
Of steel.....	8,239	6,900	279,420	231,677
Saws and tools.....			1,975,131	1,912,425
Scales and balances.....			335,456	330,526
Sewing machines and parts of.....			2,575,539	2,062,053
Steam engines and parts of:				
Fire engines.....	No. 7	6	10,930	9,975
Locomotive engines.....	No. 187	67	1,586,746	550,709
Stationary engines.....	No. 269	266	205,407	165,384
Boilers and parts of engines.....			422,223	228,235
Stoves and ranges and parts of.....			274,739	257,717
Wire.....	8,655	6,451	679,999	528,359
All other manufactures of iron and steel.....			2,678,974	2,774,260
<b>Total, not including iron ore:</b>			<b>\$24,712,814</b>	<b>\$19,578,489</b>

## III.—Exports of Metals.

Articles.	Quantities, 12 months ending December 31.		Values, 12 months ending December 31.	
	1889.	1888.	1889.	1888.
<b>Copper and Zinc.</b>				
<b>Copper and manufactures of:</b>	<b>Tons.</b>	<b>Tons.</b>		
Ore.....	45,836	39,748	\$3,226,296	\$6,779,294
Ingots, bars and old.....	7,494	14,147	1,890,589	4,902,798
Sheets.....	12	8	6,163	4,007
All other manufactures of.....			86,764	211,141
<b>Total, not including ore.....</b>			<b>1,983,516</b>	<b>5,117,946</b>
<b>Zinc and manufactures of:</b>				
Ore or oxide.....	1,338	228	73,802	18,084
Pigs, bars, plates and sheets.....	393	28	44,049	4,270
All other manufactures of.....			35,732	19,098
<b>Total, not including ore or oxide.....</b>			<b>\$79,781</b>	<b>\$23,368</b>

### The Drop in Silver.

Since we recently discussed the situation of silver there has been quite a decline in the metal—from 44½d on February 8 to 43½d on the 15th inst. As there has been no abatement in the London shipments of silver to India and the East, which were £1,195,918 from January 1 to January 23, against £556,500 during the same period last year, we can only find one explanation for the decline—i. e., the disappointment among bi-metallists and speculators for a rise in London at the declaration of the British Secretary of the Exchequer that there is not the remotest intention of issuing £4,000,000 one-pound notes and making them redeemable in silver.

We have since been able to procure detailed statistics of the foreign bullion movement in London which shows not only the amounts of silver the East has received, but the extent to which Brazil has drawn gold from there.

We furthermore subjoin a table showing the distribution of the stock of the precious metals on January 1, 1889, and January 1, 1890, showing that the silver held is only about 50 per cent. of the gold held:

*Stock of Precious Metals in Banks and Treasuries January 1, 1890.*

Banks, &c.	Silver. Thousands of dollars.	Gold. Thousands of dollars.
Associated New York Banks.....		78,200
Other Amer'n banks.....	11,000	8,000
United States Treasury.....	212,000	325,600
Bank of England.....		89,000
Scottish banks of issue.....		25,000
Irish banks of issue.....		16,600
Other English banks.....		40,000
Bank of France.....	249,000	254,600
Italian banks of issue.....	6,600	33,600
Italian Nat'l Bank.....	6,200	35,600
Italian Treasury.....	2,400	20,600
Belgian National Bank.....	7,000	11,800
Swiss banks of issue.....	4,800	600
Greek National Bank.....		600
Bank of Spain.....	23,600	20,400
Bank of Algiers.....	3,200	3,400
Bank of Holland.....	30,400	25,600
Bank of Roumania.....	6,400	
Bank of Portugal.....		5,600
Bank of Sweden.....	1,000	4,800
Swedish National Banks.....	4,800	11,800
Bank of Norway.....		13,400
Bank of Denmark.....		15,000
Bank of Russia.....	800	168,200
Russian Treasury.....	4,600	28,800
Austro-Hungarian Bank.....	68,000	27,000
German Impe'l Bank.....	48,000	143,200
German banks of issue.....	1,000	19,000
German Treasury.....		30,000
Totals.....	790,800	1,468,200
January 1, 1889..	750,000	1,432,000

In spite of the heavy silver shipments to India and the East, the stock of silver increased about \$40,000,000 in a single year.

Our attention has been called to the following error in the article by Paul Kreupointner, of Altoona, on the "Value of a Test Department," published in *The Iron Age* of February 6. The first part of the

*The Foreign Bullion Movement in London in 1889 and 1888. Thousands of Pounds Sterling.—Import.*

From	1889.			1888.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
Belgium.....	£450	£127	£577	£592	£76	£668
France.....	1,673	2,280	3,953	3,107	840	3,948
Germany.....	186	257	444	216	307	524
Holland.....	2,251	3	2,254	1,047	3	1,050
Sweden and Denmark.....	7		7	5		5
Spain and Portugal.....	47	161	208	51	163	213
Gibraltar.....	17	2	19	31	6	38
Malta.....	5	1	7	73	8	82
Alexandria, Aden, Ceylon, Bombay, Madras, Calcutta, Singapore, Penang and Manila.....	991	149	1,140	1,581	41	1,622
Hong Kong, Shanghai, Foo-Chow Foo.....	658		658	1,057		1,058
Yokohama, Cape, Cape de Verde and Sierre Leone	1,612	29	1,641	963	43	1,036
United States.....	2,569	3,976	6,545	2,251	2,384	4,635
Mexico, South America (without Brazil) and West Indies.....	2,733	2,137	4,861	699	2,256	2,955
Brazil.....	78	9	87	87		95
Canada.....	45		45			4
Australia and New Zealand.....	4,169	28	4,197	3,915	33	3,978
Other countries.....	205	22	227	54	40	94
1889.....	£17,686	£9,185	£26,871	£15,790	£6,214	£22,004
1888.....	15,790	6,214	22,004			

### Export.

To	1889.			1888.		
	Gold.	Silver.	Total.	Gold.	Silver.	Total.
Belgium.....	£271	£1	£272	£1		£2
France.....	1,692	126	1,818	3	£545	548
Germany.....	334	39	374	1,183	241	1,424
Holland.....	184	7	190	521	13	534
Sweden and Denmark.....	203		203	55	1	51
Russia.....				1,301	6	1,307
Spain and Portugal.....	2,369	44	2,413	1,925	351	2,277
Gibraltar.....	24	7	32	16	2	18
Malta.....	40	1	41	10	4	14
Alexandria, Aden, Mauritius, Ceylon, Bombay, Madras, Calcutta, Singapore, Penang and Manila.....	2,319	8,171	10,490	660	5,361	6,018
Hong Kong and Foo-Chow-Foo.....		405	405		149	149
Yokohama.....		1,045	1,045		330	330
Cape, Cape de Verde and Sierre Leone, &c.....	2,406	324	2,733	1,433	105	1,537
United States.....	10	31	41	4	32	36
Mexico and South America (without Brazil)....	748	260	1,008	7,333	134	7,466
Brazil.....	3,348	62	3,411	356	172	528
Canada.....	15	20	35	10	39	49
Australia and New Zealand.....		48	48		122	122
Other countries.....	485	75	560	141	8	149
1889.....	£14,455	£10,666	£25,122	£14,944	£7,615	£22,559
1888.....	14,944	7,615	22,559			

article should read: Was reduced from 11 per cent. to ¼ per cent. in six years, not 1 per cent., as the types made it.

### The Alabama Coal Miners' Strike.

On the 6th inst., the miners of the De Bardeleben Coal and Iron Company at Johns and at Adger in the Blue Creek coal field went on a strike. The miners in the Birmingham district employed by iron companies are all working on a contract that will not expire until July next. It is a sliding scale. The DeBardeleben Coal and Iron Company's miners receive 40 cents per ton, run of mine coal, when No. 3 mill iron sells at the furnace for \$13 per ton. An advance of 2½ cents per ton is paid on every dollar advance in the iron market above \$13. An advance of 2½ cents per ton was but recently given the miners here, making the present price 42½ cents per ton. So far as can be learned the men do not ask for an advance in wages, but they ask, among other things: That the companies furnish all posts, ties, rails, &c., required by the miner for keeping his room in good condition to him inside the mine. That the miners' committee be allowed to regulate the working hours of each mine and that a better sup-

ply of cars be given. That no boy under 17 years of age should be permitted to work in the mines, and that the trouble between the miners and the company be settled by the miners' committee.

It is possible that the other mines in the district may be affected, with the exception of the Tennessee Coal, Iron and Railroad Company. We understand that the latter have a special contract with their men, with a promise that in case of a strike at other mines the company are not to furnish coal or coke to the other companies in the district.

We are indebted to Andrew Adger, secretary of the De Bardeleben Coal and Iron Company, for the following dispatch on the situation: "Miners recently striking back at work on old basis."

It is claimed that the work recently referred to as feats of copper rolling has been eclipsed at the rolling mill of the Tamarack-Osceola Copper Mfg. Company, Dollar Bay, Mich., where an ordinary copper cent, of the coinage of 1889, was rolled some little time ago into a strip having an average width of about 1½ inches, its length being 65 inches and its thickness 1/1000 inch.



## CORRESPONDENCE.

## Chrome Ore as a Basic Lining.

To the Editor: The publication in *The Iron Age* of January 23, page 140, of data on the use of chrome ore as a lining for open-hearth furnaces has suggested to me to communicate to you some information on the use of this material for isolating the silicious and the basic parts of such furnaces. Until about two years since, when it was the practice in Germany to make almost exclusively the hearth and the hearth walls of dolomite, builders were forced to provide for an isolating layer between the dolomite and the silica masonry rising above it. A suitable material for this purpose was found to be chrome ore, which was generally used with contents of 48 to 55 per cent. of chromic oxide. An analysis of the ore then used and still employed in some localities for this purpose is given below, the figures representing a fair average:

	Per cent.		Per cent.
SiO <sub>2</sub> .....	17.25	Cr <sub>2</sub> O <sub>3</sub> .....	52.35
Fe <sub>2</sub> O <sub>3</sub> .....	15.00	MyO.....	3.72
Al <sub>2</sub> O <sub>3</sub> .....	7.15	CO <sub>2</sub> .....	1.86
CaO.....	0.65		
Total.....			97.98

The chrome ore was either roasted or it was prepared in a raw state in the following manner: It was ground to a coarse grain, mixed with 16 to 18 per cent. of its weight of hot tar, and in this condition a layer of 4 to 7 cm. was rammed down upon the dolomite brickwork with the aid of warmed hammers. When well stamped it proved to possess, after cooling, a fair amount of strength. It was upon this material that the silica walls were built up.

Another method of preparing chrome ore for use is to make of it slabs about 6 cm. thick from the material prepared in the manner described above. The mixture of chrome ore and tar was burnt for several hours at a red heat, and having in this manner acquired considerable hardness, could be laid upon the dolomite walls. I have always found the latter method of preparing an isolating layer the best.

Experience soon taught, however, that chrome ore at high temperatures softens, and that when in this softened condition the weight of the silica masonry upon it and of the furnace arch begins to squeeze the chrome ore out of position. The result is that after a period varying in its duration it is impossible to prevent contact between the dolomite and the silica material, which soon becomes fatal to the furnace.

After the introduction of magnesia bricks for the lining of open-hearth furnaces builders continued to place an isolating layer of chrome ore between the magnesia and the silica. But it was soon found that no serious consequences followed the suppression of this isolating layer, and that on the contrary it proved advantageous, since there was no occasion to dread the existence of a weak joint between the two materials caused by melting out of the chrome ore.

Even in those works which still use dolomite exclusively for lining the hearth and building up the side walls ordinary magnesite brick are now employed in the place of chrome ore as an isolating layer between the brick and the silica, the results being very favorable.

I may note also that there is a growing tendency to build up the side walls of the open-hearth furnaces of magnesite brick up to the spring of the arch of the roof, instead of making the upper limit of the basic lining that level which the slag line occupies. The resistance to the destructive action of high temperatures in open-hearth furnaces is very much greater in the case of basic materials than that of silica, so that I believe the time is not far distant when the entire upper parts of the

furnace, inclusive of the roof, will be made of basic material. In this case magnesite alone can be considered as the material in view of its advantages over dolomite. One thing which remains to be overcome is the brittleness of magnesia brick, which as little as silica brick can stand rapid heating up of the furnace or rapid cooling down. This, however, did not cause any serious difficulties.

HEINRICH PORTER.

NEW GLASGOW, N. S., February 10, 1890.

## OBITUARY.

W. J. M'ALPINE.

William Jarvis McAlpine, who died on the 16th inst. at his home in New Brighton, Staten Island, was considered both at home and abroad as one of the most—perhaps the most—eminent civil engineers in America. He was born in this city in 1812, and obtained his education in the city schools. His first engineering work of importance was upon the Erie Canal, being associated with W. W. Wright, of Geneva, as one of the chief engineers. He had charge of the eastern division of the Erie Canal until 1846, when he became chief engineer of the dry docks of the United States Navy Yard in Brooklyn. In 1852 Mr. McAlpine was elected State Engineer of New York. In 1854 he was appointed State Railroad Commissioner. Subsequently he was acting president and chief engineer of the Erie Railroad. He was requested by the Emperor of Austria in 1870 to present plans for the improvement of the cataracts of the Danube River, and he had the pleasure of having his plans accepted in preference to those presented by some of the foremost civil engineers of Europe. He was elected president of the American Society of Civil Engineers in 1868-69, and during his term of office he published some valuable works. The extensive water-works in Chicago were constructed under his supervision, and he was consulting engineer of the Toronto water-works.

During the war Mr. McAlpine had charge of railroads in the Southern States, and was appointed to the work of transporting troops. He was chief engineer of the new bridge over the Harlem River, and was engineer in charge of the Tehuantepec Ship Canal. For many years he was chief engineer of the Arcade Railroad. There have been few, if any, great engineering works in recent years of which he has not been either chief or the consulting engineer. He laid the foundations and for three years was General Superintendent of the new Capitol at Albany. Mr. McAlpine was the first man in America to be elected an honorary member of the London Society of Civil Engineers, and a gold medal valued at \$100 was bestowed upon him by this society for the best essay on an engineering subject. He was also regarded as one of the best mathematicians in America on problems relating to engineering. In his manner Mr. McAlpine was courtly and polished. The fact that although he was connected with so many great engineering projects, yet never accumulated wealth, is pointed out by his friends as proof of an honesty and integrity for which he was pre-eminent. He married a sister of the late Edward Learned, a well-known business man of this city. His wife and several daughters survive him. Mr. McAlpine's death was due to a general breaking down of the system, though, considering his age, he was active until within a few days ago.

HENRY SNYDER.

Henry Snyder, general manager of the Union Switch and Signal Company, of Pittsburgh, died at his residence in that city last week. Mr. Snyder had an exten-

sive acquaintance among railroad officials of the country, and was held in high esteem by all who knew him. His funeral took place from Philadelphia.

## The Shipping Bounty Scheme.

The question of free ships, subsidies, &c., has received a thorough ventilation of late in a series of statements made before the House Committee on the Merchant Marine by representative men from our large shipbuilding firms and the principal American lines of ocean steamships. With few exceptions the weight of testimony has favored the granting of extraneous aid in some form from the Government Treasury to offset the advantages possessed by foreign competitors. The granting of bounties has received special prominence throughout, with the object of equalizing differences in the cost of building and navigating, so that Americans may be able to maintain themselves as against subsidized lines, subventions, or in whatever shape Government favor may be enjoyed by steamships under a foreign flag. Within the past week Capt. John Codman, the recognized free ship champion, a retired shipmaster, whose voluminous communications to the newspaper press under the familiar "J. C." have been before the public for 20 years, boldly stepped into the arena. Captain Codman insisted Mr. Hughes' statement, that a change in the navigation laws so as to allow American registers to foreign tonnage, would put up the price of ships in England, was a pretty good free ship argument if the statement made by the shipbuilders is correct that the difference is now only 10 or 12 per cent. It would wipe it off, and while it would gain us cheaper ships it would make the Englishman's ships dearer and thus we should be brought up on an equality. He assumes it to be a fact, and insists upon it vigorously, that if legal impediments could be removed American orders for execution in British shipyards would bring about "an equality" of prices for the finished product on the two sides of the Atlantic. Unfortunately for the main point at issue, it has been pretty thoroughly demonstrated that the first cost of ships has really only a remote connection with the single vital question, one paramount to all others, "How can ocean steam transportation be made profitable to American ships?" There is already an abundance of American capital in the Atlantic trade, but under cover of a foreign flag. It is well understood that the Administration at Washington is disposed to foster the American merchant marine by all honorable methods consistent with the existing order of things. It would even inaugurate a new policy and put itself permanently on record as having rescued the shipping interests of the country from a condition of almost hopeless decadence. The object is worthy of earnest endeavor and calls for the wisest statesmanship.

The coke works in the region of Dunbar, Pa., owned and operated by the Cambria Iron Company, of Johnstown, Pa., have been leased by Isaac Taylor, the former superintendent, who has assumed full control. The transfer includes the Mahoning and Atlas works, at Dunbar, and the Morrell and Wheeler works, at Wheeler.

H. O. King, 26 North Forsyth street, Atlanta, Ga., is calling attention to a new bale covering for cotton. The outside is made of web wire, the ends of the wire being united together round the bale while it is in the press either by twisting the raw edge into the selvage or by uniting them with other wire.

# TRADE REPORT.

## Philadelphia.

Office of *The Iron Age*, 220 South Fourth St.,  
PHILADELPHIA, Pa., February 18, 1890.

**Pig Iron.**—There is no material change from last week, although the general feeling is in the direction of improvement. There is a better demand for Foundry Irons, which are freely taken at quoted rates, although Mill Irons are a little slow, unless concessions are granted. Still, consumers show more interest in the market, and the indications point to a growing demand in the near future. Prices are firm for local brands at from \$17.50 to \$18, delivered, for Gray Forge, \$18.50 @ \$19 for No. 2 Foundry, and \$19.75 @ \$20.25 for No. 1, with 50¢ to 75¢ more for special brands. So far as concerns the trade locally, the outlook is considered favorable for an improving market. Stocks have not accumulated to any extent, while the attitude of consumers shows that supplies with them are at a low point and that replenishment will be necessary at an early date. The continued high cost of materials imparts a degree of firmness which must be maintained if production is to be continued, so that from a local standpoint there is no probability of lower prices for the present. Of course the market will be subject to influences from outside points, and much will depend upon the course of events South and West. The immediate indications are not entirely favorable, as some of the leading Alabama companies are watching their opportunity for bids for round lots at less money than is quoted for local brands. It is of course impossible to say what figures would be accepted without submitting a firm offer, but it is reasonably certain that \$17 would not be refused for Gray Forge for the right delivery and for satisfactory payments, although \$16.50 was declined for a 5000-ton lot. But taking everything into account there is a steadier feeling than there was two or three weeks ago, and with anything like moderate buying the market would easily respond to reports of improvement at other points.

**Bessemer Pig.**—There is absolutely no demand, so that prices are entirely nominal at \$21, at furnace. There is no pressure to sell, however, and it is more than probable that a needy buyer would find it difficult to place an order for prompt delivery. It is a waiting market, and its ultimate course will doubtless depend on the price of ores, which are scarce and dear, and from present appearances are likely to remain so.

**Spiegeleisen.**—Prices are unsettled and irregular, with very little disposition to make firm offers in the present condition of the market. Sellers quote about \$36.50, c.i.f., duty paid, but \$35 @ \$35.50 would probably be a buyer's full limit to-day. Ferromanganese is lower, with sales of 80 % for summer shipment at about \$85, c.i.f., duty paid, and \$95 @ \$98 for spot lots.

**Steel Rails.**—The market is dull and prices not more than steady at \$35, at mill. Intimations are made that business has been done at \$34.50, but it is difficult to get the details. Some say resales have been at that figure or less, but be that as it may, manufacturers are not securing much business at \$35. The demand for miscellaneous Steel is very large, however, so that there is plenty of work of one kind or another.

**Billets and Slabs.**—The market is unsettled, owing to the offerings of lots from second hands. There are sellers at \$36.50 @ \$37 for Billets, delivered to mills in the neighborhood, and \$35 @ \$46 for Nail Slabs, but consumers are disposed to finish

up their old contracts rather than increase their lines in the present condition of the market.

**Blooms.**—Prices are steady at about \$52 @ \$53 "P Bloom ton" for Hot-Blast Charcoal, and \$54 @ \$55, delivered, for Cold-Blast. Runout Anthracite, \$44 @ \$45, and Scrap Blooms, \$35 @ \$36, delivered in consumers' yards.

**Muck Bars.**—The market is extremely dull, and business virtually in abeyance. Holders ask \$31.75 @ \$32, at mill, but buyers make no response at these figures.

**Bar Iron.**—There is very little to report in this department. Business cannot be regarded as satisfactory, although prices are steady at the rates recently ruling. The advance in cost, however, places manufacturers in a very unenviable position, leaving no margin at present selling price, while there is nothing in the market to warrant an advance, although some of the most experienced men in the trade are of the opinion that higher prices will rule within the next 60 days. Meanwhile, however, it is not easy to get over 1.95¢ for Best Refined Bars, while at mills in the interior about 1.85¢ appears to be the ruling quotation. The demand is not large, but for the present mills are kept pretty well employed, while prospects for the near future are said to be improving.

**Skelp Iron.**—There is not much doing, but prices are steady and unchanged at 1.95¢ @ 2¢ for Grooved and 2.10¢ @ 2.15¢ for Sheared.

**Plates.**—The market "pursues the even tenor of its way" without a ripple. Mills appear to be all busy, and, while the amount of new business is not large, prices are well maintained. It is said that a great deal of work will be on the market in a little while, but for the present the market may be called quiet and unchanged at about the following figures, delivered:

	Iron.	Steel.
Tank.....	2.25 @ 2.50¢	2.65¢ @ 2.75
Shell.....	2.65¢	3.00¢ @ 3.10
Flange.....	3.25¢	3.25¢ @ 3.35
Fire-Box.....	3.75¢	3.75¢ @ 4.25

**Structural Material.**—There is not much to report in this department, as most of the work at mills is on old contracts. These, it is said, will extend pretty well toward midsummer, so that there is no urgency to secure additional work unless for satisfactory prices and deliveries. There is not much inquiry at the moment, but manufacturers feel sure of their position, and are therefore pretty firm in prices, which are about as follows: 2.30¢ @ 2.35¢, delivered, for Iron Bridge Plate; 2.25¢ @ 2.30¢ for Angles, with 20¢ @ 25¢ more for the same in Steel. Tees, 2.8¢ @ 2.9¢; Beams and Channels, 3.1¢ for either Iron or Steel.

**Sheet Iron.**—There is a good demand and mills are running full time without being able to accumulate stocks. The demand is well distributed and very encouraging to manufacturers. Prices are steady and for carload lots about as follows:

Best Refined, Nos. 14 to 20.....	3.10¢
Best Refined, Nos. 21 to 24.....	3.30¢
Best Refined, Nos. 25 to 26.....	3.50¢
Best Refined, No. 27.....	3.60¢
Best Refined No. 28.....	3.70¢
Common, ¼¢ less than the above.	
Best Soft Steel, Nos. 14 to 20.....	3 1/8¢
Best Soft Steel, Nos. 21 to 24.....	3 3/8¢
Best Soft Steel, Nos. 25 to 26.....	3 5/8¢
Best Soft Steel, No. 27.....	4 1/8¢
Best Bloom Sheets, 1-10¢ extra over the above prices.	
Best Bloom, Galvanized, discount.....	60 %
Common, discount.....	62 1/2 %

**Old Rails.**—The market is very unsettled, and prices hard to quote, as there is no general demand. Attempts to turn Rails into immediate cash would, therefore, lead to very low quotations, such, for instance, as \$25.50, reported in New York a few days ago. There are no lots offered in this market, but sales are reported at

from \$27.50 to \$28, delivered to mills in the interior, which is probably a fair average quotation.

**Scrap Iron.**—The market is a little irregular, but sales have been at about the following quotations: No. 1 Wrought, \$24 @ \$25, Philadelphia, or for deliveries at mills in the interior \$25 @ \$26; \$16 @ \$17 for best Machinery Scrap, \$15 @ \$15.50 for ordinary, \$16.50 @ \$17 for Wrought Turnings, \$11 @ \$11.50 for Cast Borings, and \$28 @ \$30 for Old Fish-Plates, and \$18 @ \$19 for Old Car-Wheels.

**Nails.**—The demand is improving, and prices are steadier. The price from store is \$2.20, with 10¢ rebate for carload lots. A new list of extras has been issued by the Western Nail Association, making the base price \$2.25 for carload lots, less 2 %, and 10¢ additional for less than carload lots.

**Wrought-Iron Pipe.**—The demand is very satisfactory, mills having all they can do to keep up with their orders. Discounts unchanged, as follows: Butt-Welded Black, 47 1/2 %; Butt-Welded Galvanized, 40 %; Lap-Welded Galvanized, 47 1/2 %; Lap-Welded Black, 60 %; Boiler Tubes, 1 1/2 inches and smaller, 45 %; Boiler Tubes, 2 to 4 inches, 50 %; Boiler Tubes, 4 1/2 inches and larger, 52 1/2 %; Oil Well Casing, 52 1/2 %.

## Chicago.

Office of *The Iron Age*, 50 Dearborn street, 1  
CHICAGO, February 17, 1890.

Business generally is in satisfactory shape, with fair prospects for the future. In nearly every line inquiries are numerous, and it would require but a slight addition to the present volume of business to make trade definitely active. Much interest is taken in the fight brewing between the railroads running to Missouri River points. If a freight war should be precipitated it is believed that a very heavy influx of Western orders would follow. Advantage would be taken at this time to lay in stock for not only the spring trade but to run well into the summer. Of course the effect of this would be decreased business later, but the change to activity from the quietness of the past two months would be most heartily welcomed and chances would be taken on the future.

**Pig Iron.**—Manufacturers of Coke Iron report a little more activity in their trade, now that speculative lots are well out of the way. Numerous small orders are coming in by mail, and the larger consumers do not hesitate to buy from 200 to 500 ton lots as they find their stocks diminishing or their contracts running out. The market is getting more and more under control of the seller and the future is regarded with increasing confidence. Lake Superior Charcoal continues very firm, but without change in price. Southern Coke Irons are comparatively quiet, notwithstanding the recent reduction in freight rates, which has lowered the price here. Northern Ohio Irons are to be had at former figures, as makers have deemed it inadvisable to add the increased cost of Coke to their selling price. Makers' quotations are as follows, f.o.b. Chicago, for cash:

Lake Superior Charcoal.....	\$23.00 @ \$23.50
Local Coke Foundry, No. 1.....	19.50 @ 20.50
Local Coke Foundry, No. 2.....	19.00 @ 20.00
Local Coke Foundry, No. 3.....	18.00 @ 19.00
Am. Scotch (Strong Soft), No. 1.....	21.25 @ 22.00
Ohio Silveries, No. 1.....	19.25 @ 20.00
Southern Coke, No. 1.....	20.25 @ .....
Southern Coke, No. 2.....	19.50 @ .....
Southern Coke, No. 3.....	19.25 @ .....
Tennessee Charcoal, No. 1.....	21.50 @ 22.00
Alabama Car-Wheel.....	26.00 @ 27.00
Bessemer.....	24.00 @ .....

**Bar Iron.**—Inquiries appear to be increasing rather than diminishing, and the mills are consequently maintaining a very firm front. Rumors have been circulated that an order for Car Iron was placed at a



price much below anything recently current, but the parties reported to have made the sale deny it in strong terms and offer convincing proof to the contrary. The time for concessions really seems to have been passed for the present. Sales of considerable quantities of Common Bars, ordinary specifications, have been made at 1.90¢ @ 1.95¢, half extras, Chicago. Car specifications might be placed with some mills at 1.85¢, but few of them will now name that price. Small lots from store are still held at 2.10¢ @ 2.20¢, according to quantity.

**Plates, Tubes, &c.**—Some very large orders for Plates are in the market, one calling for 1200 tons. Dealers have done a very fair business during the past week also. Prices show no change, still being particularly firm. Carload lots from mill are quoted at 2.65¢ for Tank Iron; 2.90¢ for Tank Steel; 2.80¢ for Nos. 10 to 14 Iron Sheets, and 3¢ for Steel do., f.o.b. Chicago. Store prices are as follows: Nos. 10 to 14 Iron Sheets, 2.90¢; No. 16 do., 3¢; No. 18, 3.25¢; Nos. 10 to 14 Steel Sheets, 3¢ @ 3.25¢; No. 16 do., 3.50¢ @ 3.75¢; No. 18 do., 3.75¢ @ 4¢; Tank Iron, 2.75¢ @ 2.80¢; Tank Steel, 3¢ @ 3.10¢; Shell Iron and Steel, 3.25¢; Flange Steel, 3.50¢; Fire-Box, 4.25¢ @ 5.50¢; Boiler Rivets, 4¢ @ 4.25¢; Norway Rivets, 40 ¢; Boiler Tubes, 1½ inches and smaller, 45 ¢; 2 to 4 inch, 50 ¢; 4-inch and larger, 52½ ¢.

**Sheet Iron.**—The situation in Black Sheets is unchanged, the manufacturers of best grades being very firm, while those making a poorer article are solicitous for business and making concessions. Standard No. 27 Common is quotable at 3.25¢ @ 3.30¢, Chicago, in carload lots from mill, and at 3.40¢ @ 3.50¢ from store.

**Galvanized Iron.**—The condition of the market is surprisingly irregular, the demand being very heavy, while prices are cut. The reason for the cutting seems to be inexplicable to the dealers. Among the orders placed last week was one for 2000 sheets. Other large contracts are pending. Small lots of Juniata are quoted in the regular way at 50 and 10 ¢ to 60 ¢ off, according to quantity, but it is reported that an extra 2½ has been given by some of the dealers.

**Merchant Steel.**—The demand is gradually becoming better, but thus far sales have been confined to small lots, heavy buyers deferring their purchases for the time being. At the same time manufacturers are pressed to make deliveries, particularly those having agricultural contracts. One mill has been obliged to put on three turns, to get out material faster. Prices are maintained at former quotations, carload lots of Open-Hearth machinery and Toe-Calk being held at 2.75¢ @ 2.85¢, Chicago; Spring, 2.65¢ @ 2.90¢. Small lots from store are sold at the following prices: Tire, 2.50¢ @ 2.65¢ rates; Bessemer Bars, 2.50¢ rates; Open-Hearth Machinery, Toe-Calk and Spring, 3¢ @ 3.25¢; Tool, 7½¢ and upward; Crucible Sheets, 7¢ @ 10¢.

**Steel Rails and Fastenings.**—The Steel Rail trade has been very quiet since our last report, but prices here have not been reduced to correspond with the reported change made by Eastern mills. Quotations are \$37.50 @ \$38. On Fastenings the manufacturers quote as follows: Iron Splice-Bars, 1.90¢ @ 2¢; Spikes, 2.25¢ @ 2.30¢; Square-Nut Bolts, 2.80¢ @ 2.85¢; Hexagon do., 2.95¢ @ 3¢.

**Old Rails and Wheels.**—A sale of Old Iron Rails is reported at \$24.75. Consumers seem to be very well supplied, and in the absence of a demand dealers are chary about making bids. If a sale should be pressed it is doubtful if over \$24 could be obtained at present writing. Sellers, however, are wisely holding off, and from their standpoint maintain that the market

is nominally \$25. Old Steel Rails are very firm and in good demand, bringing from \$20.25 to \$21.50, according to length and selection. Old Car-Wheels have been sold in small quantities at \$19 @ \$19.50, but are being picked up by those who believe in higher prices for this class of material.

**Scrap.**—A light demand exists for strictly No. 1 Railroad Shop Scrap, but dealers' No. 1 Forge is utterly without movement, although vigorous efforts are made to unload accumulated stock. The cheaper grades of Iron Scrap are disproportionately high, being less plentiful, and Steel Scrap also continues firm and in good request. Dealers quote selling prices about as follows. Per ton of 2000 lb: No. 1 Forge, \$19 @ \$19.50; No. 1 Mill, \$16.50; Nos. 2 and 3 Mill, \$11; Horse-shoes, \$19; Old Axles, \$24; Pipes and Flues, \$15; Cast Borings, \$9.75; Wrought Turnings, \$13.50; Axle Turnings, \$15; Stove Plate, \$11; Machinery Cast, \$13.50; Mixed Steel, \$15.50; Coil Steel, \$17; Leaf Steel, \$18; Tires, \$18 @ \$18.50.

**General Hardware.**—The Shelf Hardware, jobbers report trade coming up to their expectations. Orders are rolling in rapidly, and heavy shipments are now going forward to all parts of the country tributary to this market. Steel goods for farm and garden use are particularly active. No special changes have been made in prices, but Wire Cloth is stiffening. It was sold early in the season at \$1.50 @ \$1.55, but now \$1.60 is becoming regular, and that price will probably be sustained. Heavy Hardware jobbers are having a very satisfactory trade in their specialties. Collections are improving.

**Nails.**—It is too early as yet to ascertain what effect the new Cut Steel Nail card will have on trade, but inquiries were improving up to the time of its announcement, stimulated by the cut in prices. The regular price at the factory is \$2.25 for 50 and 60 pennies, with 20¢ per keg extra on tens. It is asserted that the new card will do away with the practice of making a sliding scale on heavy averages above base sizes. Manufacturers will now sell any size called for, as is done by the Wire Nail manufacturers. It has been figured out that on an average specification the old and new rates are practically equal. Wire Nail manufacturers report numerous inquiries, and quote \$2.95, Chicago, on large lots from factory. Jobbers are shipping Nails to their customers very heavily just now in connection with other goods. They quote Wire Nails at \$3.15 in small lots, but on account of close competition prices are shaded according to circumstances. At a meeting held Saturday afternoon the local jobbers agreed to make the price of Cut Steel Nails \$2.50 in less than carloads, \$2.45 in carloads, \$2.35 at mill for less than carloads and \$2.25 at mill for carloads.

**Barb Wire.**—A good trade is in progress and the demand is increasing, promising to be in full swing very soon. Buyers who would not take hold at the recent low prices are as usual anxious to place orders at those rates now, but jobbers are firm and quote the established price of 3.45¢ for Painted, with 10¢ off for carloads. Galvanized is still 60¢ per 100 lb dearer than Painted.

**Pig Lead.**—With a fair inquiry the sales for the past week reached 500 tons at 3.65¢ @ 3.07½¢, according to brand, &c. Spot Lead is not available below 3.67½¢. The refiners held a meeting in this city last week which was expected to have important results, but they evidently failed to agree, and nothing of consequence was effected.

Marks Nathan, formerly of Swarts & Nathan, has opened an office in room 305, Insurance Exchange Building, 218 La

Salle street, Chicago, where he will continue the business of wholesale dealer in Old Railroad Material, Scrap Iron and Metals. Mr. Nathan has had long experience in this line, the firm of Swarts & Nathan with which he was connected having been established in 1871.

## Louisville.

LOUISVILLE, KY., February 17, 1890.

The market is exceedingly quiet, with no sales of any moment having been made during the past week. Buyers are very uncertain in regard to what course to take and are not willing to make purchases at present for future delivery. The larger furnaces have been holding prices on basis of \$16 for No. 1 Foundry at furnace, and we have not heard of any concessions made by them; Iron, however, can be bought for less money from one or two Southern furnaces who are not working in harmony with the larger companies. Dullness is apparent so far as sales are concerned, the encouraging feature being the steadiness with which the larger companies have maintained prices, showing their confidence in the future, and the fact that manufacturing establishments do not complain of their prospects and report having a sufficient amount of work to make them easy. Prices are nominally the same as last week.

Southern Coke, No. 1 Foundry (new classification)	\$18.75 @ \$19.25
Southern Coke, No. 2 Foundry (new classification)	18.25 @ 18.75
Southern Coke, No. 3 Foundry (new classification)	17.75 @ 18.25
Gray Forge	17.25 @ 17.75
White and Mottled, different grades	16.00 @ 17.00
Silver Gray, different grades	16.75 @ 17.75
Southern Charcoal, No. 1 Foundry	18.75 @ 19.75
Southern Charcoal, No. 1 Mill	17.50 @ 18.00
Southern Car-Wheel, standard brands	23.50 @ 24.50
Southern Car-Wheel, other brands	19.25 @ 21.75
Easing Rock Coke, No. 1 Foundry	18.75 @ 19.25
Hanging Rock Charcoal, No. 1 Foundry	22.00 @ 22.50
Hanging Rock, Cold Blast	24.00 @ 26.00

## Cleveland.

CLEVELAND, February 17, 1890.

**Iron Ore.**—The mine owners have nearly completed the annual inspections of their properties, and in many instances have found that considerable quantities of Bessemer Ore can be sold with safety. The announcement of this discovery has again precipitated a flood of inquiries, many of them coming from the far Eastern furnaces. Several small lots of Bessemer Ore are reported to have been sold during the past week at \$5.75 @ \$6.25, f.o.b. vessels Lake Erie ports. There is a demand also for No. 1 Speculars at \$6.50 @ \$7, and scattering sales of this grade of Ore are anticipated during the present month. Non-Bessemer continue in steady demand at \$4.25 @ \$5, with a number of substantial sales reported. Considerable tonnage has been engaged during the past week at \$1.10 from Escanaba and \$1.25 from Marquette. The tone of the market is quite firm and prices remain steady, too large a proportion of this year's probable output having been already engaged to admit of any material fluctuations in market values.

**Pig Iron.**—Buyers and sellers seem to have come somewhat closer together during the past week. The market has by no means resumed the activity displayed six weeks ago, but there has been an improvement over the situation presented early in the month. A few concessions seem to have been made in selling prices, but the tone of the market is firm and the outlook for a substantial increase in transactions is considered favorable. A large proportion of the furnaces, however, seem to be well sold up until May 1, and consequently not particularly anxious to dispose of large orders. Considerable un-

easiness is felt as to the price of Coke for the remainder of the year. The stocks of Ore already purchased for consumption in 1890 were purchased at something of an advance over last year's prices. If the price of fuel should now be seriously increased the situation would be quite serious.

**Coke.**—The price to furnaces at the ovens is now \$2.15  $\frac{1}{2}$  ton, with the belief prevailing that 25¢ or 30¢ more  $\frac{1}{2}$  ton will be added in March. Furnacemen are asking for liberal quantities at present quotations, but are only able to obtain small amounts. The Coke manufacturers claim to be assured that there will be no strikes among their employees this year and consequently feel that the situation is in their own hands.

**Old Rails.**—Buyers still hesitate about paying over \$27 for Old Americans and very few transactions are reported.

## Chattanooga.

Office of *The Iron Age*, Carter and 9th Sts., CHATTANOOGA, February 17, 1890.

**Pig Iron.**—It would be quite difficult to describe the condition of the market at the present time, so far as future prices are concerned. A few days ago it was evident that the market was not quite as stiff as it had been and that prices were on the decline, and if not interrupted would have taken a position of 50¢ to \$1 off, but within the past three or four days elements have developed that have given the tone of the market rather an upward turn, and in some instances the prices now asked are an advance on the highest figure that has ruled during the past three months. Some of the stacks are asking as much as \$15.50, cash, for No. 3, f.o.b., for deliveries that are to run through the next six months. For immediate delivery Iron can be bought for less than that figure, but there are very few producers that do not think that Iron will be considerably higher in the next three months. There appears to be a holding-off policy among buyers; at the same time, the stacks are not willing to concede figures, as they consider themselves in strong positions whether Coke is restricted or not. During the past five or six days a number of speculators have appeared upon the surface, and offers for large amounts have been made provided prices are made satisfactory, which would have been if concessions of 50¢ to 75¢ had been made. Under the present feeling that exists between the producers and buyers but few sales are being made, less probably than at any time during the past year. The business of the Southern foundries has shown a marked increase, and the prospects are now, judging from inquiries from them to the brokers, that their consumption the present year will be at least 50% more than it was last year.

## Detroit.

WILLIAM F. JARVIS & Co., under date of February 17, 1890, say: The pronounced inactivity in this market for nearly all grades of metal has apparently come to an end, for numerous inquiries have been made, and these for considerable lots of Iron on almost every grade. Many of the Eastern buyers of Lake Superior Charcoal Iron seem imbued with the fact that now is the appointed time, and if their inquiries are satisfied by the sellers some large blocks of this Iron will be placed before the 1st of March. There has been an undercurrent of small orders all the time, but no large business has been in prospect for Lake Superior Charcoal during this month until now. The raising of the price of Coke has

had the effect already of stiffening Foundry Iron. Official reports of February 1 showed that while in 1888, during the month of January, the stocks were increased about 70,000 tons, they showed a diminution from January 1, 1890, until February 1 of between 5000 and 10,000 tons. The outlook is very much brighter and business decidedly more active. While the market figures we give below are the same as last week, they are on a very much firmer basis:

Lake Superior Charcoal, all numbers	\$22.50 @ \$23.50
Lake Superior Coke Bessemer	23.50 @ 24.50
Katabdin (Maine Charcoal)	26.00 @ 26.50
Lake Superior Coke Foundry, all ore	20.50 @ 21.50
Lake Superior Coke Foundry, cinder mixed	20.00 @ 20.50
Standard Ohio Blackband	20.00 @ 21.00
Southern No. 1	20.50 @ 21.00
Southern Gray Forge	19.00 @ 19.50
Jackson County (Ohio) Silvery	19.50 @ 20.00
Old Car-Wheels (nominal)	21.00 @ 22.00

## Cincinnati.

Office of *The Iron Age*, Fourth and Main Sts., CINCINNATI, February 17, 1890.

**Pig Iron.**—The outlook for the Pig Iron interest is more encouraging. The most important feature is the renewed and increased demand for railroad equipment. The car shops as a rule are fully employed. Some of them have orders which will keep them busy the remainder of the year; others have contracts occupying full time up to May 1, and are now booking orders for delivery between May and September. The large contracts placed require liberal purchases of both Manufactured and Pig Iron, and not a few sales have been made, but lower prices have been made on both Pig and Bar Iron. Among the sales reported are 500 tons Bar Iron sold by Toledo to Detroit during the past week at 1.80¢  $\frac{1}{2}$  lb. Some time since a similar transaction between the same concerns was made at 2¢. This shows a decline of upward of \$4  $\frac{1}{2}$  ton. The Car-Wheel Iron sold shows less decline, but still with quite a material reduction from former prices. Among the sales were 3500 tons Southern Car-Wheel, Nos. 5, 6 and 7, at \$20, at furnace, or \$23.15, Cincinnati, cash; other and less desirable Car-Wheel Iron sold at about \$22.50 for 500 tons. Some time since, when the Lake Superior furnaces made large contracts to deliver upward of 50,000 tons Car-Wheel Iron to Steel works in Illinois, the price of Lake Superior product was materially advanced; since that time there has been a lull, and several furnaces have been suspected of cutting the established price; to correct this practice a meeting is said to have been held in Chicago Saturday. The attitude of the De Bardeleben, the Tennessee Coal and Iron Company and the Sloss Furnace is asserted to be unchanged, these stacks insisting upon the advanced prices asked some time since, and being fortified by large contracts, insist upon full prices. Other Southern furnaces, however, are reported to have made concessions of 50¢  $\frac{1}{2}$  ton, which, with the reduction of 30¢  $\frac{1}{2}$  ton in freight rate, gives buyers the advantage of 80¢  $\frac{1}{2}$  ton. The demand has been somewhat stimulated by this decline, but the average buyer demands even greater concessions, and until most all of the Iron in second hands on the market has been closed out, the consumer will not demand in vain. But a number of these lots are reported to have been closed out during the past week at comparatively low prices. No. 3 Southern foundry has been offered at \$16.75 @ \$17.25, and Southern Gray Forge at \$16.50 @ \$17.00 cash, Cincinnati, with sales of several hundred ton lots, as well as smaller amounts. Northern furnaces also reported to have yielded prices in some instances to buyers' views. The following are the approximate rates current for cash, Cincinnati, f.o.b.

### Foundry.

Southern Coke, No. 1	\$18.00 @ \$19.00
Southern Coke, No. 2	17.50 @ 18.50
Southern Coke, No. 3	17.00 @ 17.50
Ohio Soft Stone Coal, No. 1	18.50 @ 19.00
Ohio Soft Stone Coal, No. 2	17.50 @ 18.50
Mahoning and Shenango Valley	18.00 @ 18.50
Hanging Rock Charcoal, No. 1	21.00 @ 23.00
Hanging Rock Charcoal, No. 2	20.00 @ 22.00
Tennessee and Alabama Charcoal, No. 1	19.50 @ 20.00
Tennessee and Alabama Charcoal, No. 2	18.50 @ 19.00

### Forge.

Gray Forge	17.00 @ 17.50
Mottled Neutral Coke	16.50 @ 17.00

### Car-Wheel and Malleable Irons.

Southern Car-Wheel	23.00 @ 24.00
Hanging Rock, Cold Blast	22.00 @ 25.00
Lake Superior Car-Wheel and Malleable	23.00 @ 25.00

**Manufactured Iron.**—There has been an increased demand for Bar, but at the expense of values only have large sales been made. There has also been a fair inquiry for Plate, but an easier feeling has prevailed. Merchant Bar is quotable at 1.90¢ @ 2¢ and Charcoal Bar at 2.90¢ @ 3¢.

**Nails.**—A weaker tone has prevailed and lower prices have been accepted. Steel Nails 12d to 40d, sell at \$2.55 @ \$2.60  $\frac{1}{2}$  keg, with 10¢ rebate in car lots, at mill; 50d to 60d at 25¢; 10d, 10¢; 8d and 9d, 25¢; 6d and 7d, 40¢; 4d and 5d, 60¢; 3d, \$1, and 2d, \$1.50  $\frac{1}{2}$  keg more; Steel Wire Nails sell at \$3.10 @ \$3.20 for 60d.

**Old Material.**—There has been but little if any demand, but there has been no pressure to sell and prices have remained nominal. Old Rails are quotable at \$26.50 @ \$27.50, according to location, and Old Wheels have been slow at \$19 @ \$19.50, spot cash.

## Pittsburgh.

Office of *The Iron Age*, Hamilton Building, PITTSBURGH, February 18, 1890.

There has been but little change in the Iron and Steel situation during the past week; there is a continued feeling of uncertainty and business in raw materials is light in consequence. Consumers are buying from hand to mouth, so the stocks in the hands of consumers are comparatively light; some will be obliged to replenish before long, and as soon as they can be satisfied that the lowest point has been reached they will commence to buy freely again.

**Pig Iron.**—There has been no improvement in demand during the past week, and it is about as plain as anything can be that consumers will not buy beyond their immediate requirements as long as there is the least possibility of lower prices. Bessemer Pig has dropped from 50¢ to \$1  $\frac{1}{2}$  ton during the week under review, and still continues dull. It has been intimated for some weeks past that there would be some large deals in Bessemer as soon as the buyers could assure themselves that the proper time had arrived; also that some of these same parties are doing all they can to depress the market at the present time. The increased cost of Coke, which amounts to 35¢ @ 45¢ on a ton of Pig Iron, is a matter that has to be taken into consideration. In regard to Mill Irons, while the demand continues light and is of a hand-to-mouth character, there has been little or no change in price during the week, notwithstanding the decline in Bessemer. It is well to bear in mind, however, that the latter had advanced much more relatively than the former, and the market now appears to be equalizing the two. Sixty days ago there was a difference between Mill and Bessemer of \$5.50 @ \$6  $\frac{1}{2}$  ton; now it is from \$3.50 to \$4. One year ago there was only a difference of \$2 @ \$2.50, and this, it is contended by those who are in a position to know, is about all the difference there should be. While Bessemer has gone off from \$2 to \$2.50  $\frac{1}{2}$  ton as compared with



the highest point, Forge Irons have only declined about 50¢  $\bar{p}$  ton. There will no doubt be a largely increased demand for Mill and Bessemer before long. Quotations may be made as follows:

Neutral Gray Forge.....	\$17.50 @ \$18.00, cash.
White and Mottled .....	16.50 @ 17.00, "
No. 1 Foundry .....	19.50 @ 20.00, "
No. 2 Foundry .....	18.50 @ 19.00, "
No. 2 Charcoal Foundry .....	21.50 @ 22.50, "
No. 1 Charcoal Foundry .....	24.50 @ 25.00, "
Cold Blast Charcoal .....	26.00 @ 30.00, "
Bessemer Iron .....	21.50 @ 22.00, "

Bessemer has been offering during the past day or two at \$22, cash, without finding takers, and it is probable it could be bought for \$21.50. There was a sale by a city furnace of 1500 tons Gray Forge Mill at \$18, cash, which appears to be the price for first-class city brands, which nearly always bring from 25¢ to 50¢  $\bar{p}$  ton more than unknown Irons.

**Muck Bar.**—The extreme dullness noted for some time past continues. Brokers report that it is almost impossible to find a buyer at present. It appears that for the time consumers are able to make all they want. We continue to quote at \$30 @ \$30.50, cash, although it is rumored that it has been offered as low as \$29.50. For good strong Neutral \$30, cash, may for the present be regarded as bottom price. It is probable there will be a considerably increased demand before long, as it is expected that the mills making Skelp Irons, who are the chief buyers, will be on the market before long.

**Manganese.**—Sales of foreign 80  $\bar{c}$  Ferro at \$95 @ \$97  $\bar{p}$  ton at seaboard, and domestic at \$1.00 here. Carnegie, Phipps & Co. have been making few sales of the latter of late.

**Manufactured Iron.**—There is a continued good degree of activity, although orders are not coming forward as freely as they would had it not been for the reaction in the market for Pig, which causes buyers to look for lower prices, and they are not buying as largely as they otherwise would; in other words, they want to keep themselves in position to take advantage of the market if it should happen to decline. Be this as it may, the outlook never was better for a big spring trade; a good trade for all kinds of Merchant Iron is assured, and in regard to specialties, such as Skelp, Bridge and Structural Iron, the indications point to an unusually big trade. We continue to quote same prices as a week ago, but the feeling is easier, in sympathy with Pig Iron; Bars, 1.90¢ @ 2¢; Plates, 2.40¢ @ 2.50¢; No. 24 Sheet, 3¢ @ 3.10¢; Grooved Skelp, 1.88¢ @ 1.90¢; Sheared do., 2.15¢ @ 2.20¢, all 60 days, 2 % off for cash.

**Nails.**—At a meeting of the Western Nail Association there were a number of changes made in the classification of the card for Common Cut Nails. For some sizes prices were reduced, while others were advanced. The base sizes were changed from 12d to 40d to 50d to 60d, and the base price reduced from \$2.50 to \$2.25 in car lots, 60 days, 2 % off for cash, or \$2.35 for less than a carload. The new card will be found elsewhere in full. Wire Nails have been reduced to \$2.85, 60 days, 2 % off for cash, in carload lots.

**Wrought-Iron Pipe.**—There is a good trade for this season of the year, and the outlook for the spring and summer is very encouraging. At the present time some of the mills are quite busy. No change in prices: Discounts on Black Butt-Welded, 47½ %; on Galvanized do., 40 %; on Black Lap-Welded Pipe, 60 %; on Galvanized do., 47½ %; Boiler Tubes, 1½-inch and smaller, 45 %; 2 to 4 inch, 50 %; 4-inch and larger, 52½ %; Casing, all sizes, 52½ % off.

**Wire Rods.**—Are still quoted at \$52 @ \$52.50  $\bar{p}$  ton, with a fair demand.

**Steel Plates.**—There is a continued good demand reported, but prices remain unchanged, as follows: Fire-Box, 4½¢ @ 4¾¢; Flange, 3½¢; Shell, 3½¢; Tank, 2.90¢.

**Structural Iron.**—Prices are easier, and as will be seen, we have made a slight reduction in our quotations on Angles and Tees. There is a continued good demand. Angles, 2.35¢; Tees, 2.85¢; Channels, 3.10¢; Sheared Bridge Plates, 2.85¢; Universal Mill Plates, 2.55¢.

**Merchant Steel.**—The market is active, but prices remain unchanged: Tool Steel, 8¢  $\bar{p}$  lb and upward; Crucible Spring Steel, 4¢; Crucible Machinery, 5¢; Open-Hearth Steel, 2¾¢ @ 3¢; Bessemer Machinery, 2½¢; Tire Steel, 2¾¢. All kinds of Bessemer Steel are easier.

**Old Rails.**—There is no demand here for Old Iron Rails, and in the absence of sales we quote nominally at \$27 @ \$27.50. The low price of Muck Bar is calculated to depress the Rail market, as at present prices the latter is cheaper to the consumer than the former. Old Steel Rails also less active, but unchanged at \$23.50 @ \$24.

**Billets and Blooms.**—The demand for Bessemer Steel Billets has fallen off and the market is weak and lower; we now quote at \$34.50 @ \$35.50, cash, at maker's mill. We are advised of a sale at equal to \$34.40, at makers' mill. The Eastern demand appears to have fallen off, as Eastern consumers can now supply themselves to better advantage at or near home.

**Steel Rails.**—Are weaker, in sympathy with Bessemer Pig; still quoted at \$35 @ \$36, cash, on cars at works, but it is intimated by those in a position to know that a desirable order could be placed below our lowest quotation.

**Railway Track Supplies.**—The demand prevailing in this line continues light, but is expected to improve as the season becomes more advanced. No change in prices. Spikes, \$2.15, cash, on cars at works here, and \$2.25 at Chicago, Milwaukee and St. Louis.

**Old Material.**—Demand has fallen off and prices are weaker, but nominally unchanged. No. 1 Wrought Scrap, \$22.50 @ \$23, net ton; Wrought Turnings, \$15 @ \$16; Car Axles, \$28.50 @ \$29; Car-Wheels, \$20 @ \$20.50, gross; Cast Scrap, \$15.50 @ \$16; Steel Bloom and Rail Ends, \$25 @ \$25.50.

## St. Louis.

OFFICE OF THE Iron Age, 214 N. Sixth st.,  
St. Louis, February 17, 1890.

**Pig Iron.**—The week just closed has shown no radical change from the one immediately preceding it, either as regards prices or volume of business. Consumers show more interest in the market than was expected, and are quietly looking round with a view of placing orders at inside figures; but it is hardly probable that they will be accommodated, as agents representing Southern furnaces are held closely to the prices as quoted herewith, and allow some good-sized orders to go unfilled rather than make concessions. The result is an increasing firmness in the situation, which, with the advanced cost of Ores and Coke, gives promise of higher prices for Pig Iron within the next 30 days. During the week under review sales have not averaged much over 200 or 300 ton lots, but they have been received with surprising regularity, showing an active state of trade as far as consumers are concerned. We quote as follows, for cash, f.o.b. St. Louis:

Southern Coke, No. 1 Foundry,	\$19.50 @ \$20.00
Southern Coke, No. 2 Foundry,	18.75 @ 19.25
Southern Coke, No. 3 Foundry,	18.25 @ 18.75

Gray Forge.....	17.75 @ 18.25
Ohio Softeners.....	20.50 @ 21.00
Lake Superior Charcoal.....	24.00 @ 24.50

### Missouri.

Charcoal Foundry, No. 1.....	21.00 @ 21.50
Charcoal Foundry, No. 2.....	19.75 @ 20.25

### Tennessee.

Charcoal Foundry, No. 1.....	20.00 @ 20.50
Charcoal Foundry, No. 2.....	19.75 @ 20.25

Connellsville Coke, f.o.b. East St. Louis, \$5.65; St. Louis, \$5.80.

**Bar Iron.**—Mills report a steady increase in trade at full prices. The outlook for a large spring trade is unusually bright. Prices are firmly adhered to, as follows: Lots from mill, 2¢; small lots from store, 2.15¢ @ 2.20.

**Barb Wire.**—The cut rates to Texas points continue, and Wire mills are reaping a harvest as far as orders are concerned, although the spring trade is bound to suffer in consequence. Mills, however, have adopted the policy of making hay while the sun shines and are pushing trade to their utmost. Prices are held firmly at the recent advanced figures, which are as follows: Painted, 3.45¢; Galvanized, 4.05¢. Carload lots 10¢  $\bar{p}$  cwt. less than above prices.

## New York.

Office of The Iron Age, 66 and 68 Duane street,  
NEW YORK, February 19, 1890.

**American Pig.**—The New York market continues quiet, with sales on a moderate scale. Some of the commission merchants report a slight increase in inquiries, and in some instances round blocks have been asked for, consumers, however, naming prices at which they are willing to buy, which are considerably under the market. The Southern furnaces at their weekly meeting have again decided to hold for prices asked hitherto, although rumors came from the West of sales very considerably below them. The coal miners' trouble in the Birmingham district is reported to be over. This means that three new furnaces which have been ready to blow in can soon be lighted. An interesting fact, indirectly affecting the Eastern market, is that the Sheffield, Ala., furnaces have begun the delivery, on contracts aggregating about 5000 tons, of Pig Iron for the Wheeling and Pittsburgh districts, having secured a rate of \$2.50 from the largest Pittsburgh coal shippers, who had their empty barges at Sheffield. We continue to quote No. 1 Foundry \$19.50 @ \$20 and No. 2 Foundry \$18.50 @ \$19.

**Spiegeleisen and Ferromanganese.**—In Spiegeleisen the market has been weak, under efforts on the part of some importers to draw out offers from consumers. Makers' prices have not as yet declined as much as these speculative lots. We quote nominally \$36 @ \$36.50. Ferromanganese has been quite active at a decline. We note sales aggregating about 800 to 1000 tons, chiefly to works in the Pittsburgh district, at varying prices. May delivery has sold as low as \$88.50, while March has been placed at \$92 for a small lot. We quote \$88 @ \$89 for early delivery.

**Billets.**—The market has been very quiet. Reports that an Eastern mill has purchased 25,000 tons in Wheeling district are authoritatively denied.

**Steel Rails.**—In the West the Atchison, Topeka and Santa Fé Railroad have bought 17,000 tons this week.

**Wire Rods.**—The market is weaker, domestic mills for the first time in a considerable period being on the lookout for orders. Foreign Rods are weaker, but are still above domestic prices. We quote domestic equivalent to tidewater delivery nominally \$54 @ \$55.

**Steel Rails.**—The market has continued very quiet, no sales of any magnitude

being reported by Eastern mills. We quote \$35 @ \$35.50 nominally at Eastern mill.

**Old Rails.**—There has been some business in Old Rails at lower prices, and and there are rumors of low offerings of some rounds afloat. We quote the market \$26 @ \$26.50, nominally.

## Financial.

It is remarked with reference to the less confident tone prevailing in mercantile circles that various recent occurrences affecting credit—e. g., the wholesale "kiting" of checks among well-known banks and the consequences thereof, the uncertain value of collaterals recently recognized as of a high standard, failures of firms and individuals hitherto of good business reputation—examples such as these are supposed to have been more prejudicial in their effects than the absorption of the Government surplus or loss of reserve by the New York Associated Banks. To the foregoing might be added railroad troubles in the West, which will not "down." Touching this latter point Senator Cullom, chairman of the Senate Committee on Interstate Commerce, in an address Monday night to the Manufacturers' Club in Philadelphia said the original purpose of the bill was "to prevent discrimination against the rights of individuals," and he thought its operation had been well for the people and for the roads. Apropos of this is the announcement by the Western Freight Association of a 20 % reduction, to take effect February 22, changing the present rate of 75¢ first-class to 60, with corresponding reductions in other classes. It is understood that the Interstate Commerce Railway Association will hold another meeting on or before April 15, at which the fate of the organization will be decided. Secretary Windom notifies the New York Emigration Commissioners that their functions will cease April 18, but the future location of the emigrant landing remains in doubt. Sheffield, Ala., iron men have sent 5000 tons of iron to Pittsburgh at the rate of \$2.50 freight  $\frac{1}{2}$  ton, and contracts for 12,000 tons in addition are said to have been made. Respecting the current volume of trade bank clearances of 49 cities the past week show a slight reduction compared with last year. New York decreased 5.2 %. This change occurs despite an increase of at least 30 % in the grain movement from Western points since January 1, compared with 1889, and largely increased railroad earnings. Cotton planters, too, have received larger prices for their crop, and there has been in enormous traffic in all kinds of building materials. The conclusion is that aside from speculative transactions business has undergone a material expansion, and this irrespective of the traffic in iron and steel.

Stocks were dull and irregular. Sugar Trust absorbed attention and recorded a substantial advance, notwithstanding the decision of the Supreme Court restricting the payment of dividends.

A fall in Cotton seed was caused by an injunction against the proposed reorganization. The coal shares were not influenced by the decision to restrict the output for March to 2,000,000 tons, the same as February. On Tuesday advices from the West were to the effect that the reduction in rates authorized by the Western Freight Association would not result in very serious trouble. There was the usual activity in Sugar Trust.

United States bonds were quoted as follows:

U. S. 4½s, 1891, registered...	103½
U. S. 4½s, 1891, coupon...	104½
U. S. 4s, 1907, registered...	123¾
U. S. 4s, 1907, coupon...	123¾
U. S. currency 6s, 1895...	116

The money market is fairly active and steady. Call loans on stock collateral are

mostly made at 4 %. Time money is firm, on a 5 % basis. Four months' money is in moderate supply, but 60 day funds are chiefly in request. The supply of commercial paper is below the average for this season. The Associated Banks report a loss of \$2,361,800 in surplus reserve. They still hold \$7,497,150 above the 25 required by law. Both the interior currency movement and the Sub-Treasury operations were against the local institutions. The items show a further expansion in loans of \$1,774,800, a decrease in specie and legal tenders combined of \$2,674,600 and in deposits of \$1,251,200.

The posted rates for bankers' sterling are \$4.83½ @ \$4.84 for 60-day and \$4.87½ @ \$4.88 for sight. The market is inclined to be weak in consequence of a better supply of commercial bills and a lighter demand. Cables from Brazil quote exchange at 24½d, which is about as low as it has been since the rebellion. Silver bullion in London dropped to 43½d  $\frac{1}{2}$  ounce, or about 3¢ an ounce within nine days.

At a meeting of the Senate Finance Committee on Tuesday the various silver and currency bills that have been referred to it were under consideration. The result was a practical agreement upon a bill directing the Secretary of the Treasury to purchase \$4,000,000 worth of silver per month at market rates and store it as bullion, and to issue against this bullion silver notes. Windom's plan was discarded. On Tuesday night A. J. Warner, of Ohio, Edward Pierrepont and other silver advocates discussed the question in favor of free coinage at Cooper Union, ex-Postmaster James in the chair.

The merchandise markets are variable, but in some respects improved. The wheat market is depressed and lower on dull cables, and the break in wheat affected breadstuffs. Corn was easier; exports during the week, 620,000 bushels. Coffee is on a firm basis. Cotton spots steady, sales light. Cotton-seed oil is wanted for export, and provisions are firm. Sugar—outside refiners have reduced prices  $\frac{1}{16}$ ¢. The demand for steam tonnage for grain runs for accommodation up to and including the summer months. The ice trade is working lively to get supplies from Eastern points. The demand for vessels is in excess of the offerings.

The total value of the exports of breadstuffs during January was \$11,558,674, against a value in January, 1889, of \$10,833,224. The total value of the exports for seven months ending January 31, 1890, was \$80,208,024, and for the seven months ending January 31, 1889, the total was \$73,814,700.

The value of the cattle exported during January was \$1,724,952, and for the seven months ending January 31, \$16,455,511; the figures for the seven months ending January 31, 1889, were \$6,973,132.

The total value of the exports of mineral oil during January was \$3,090,067, against 84,098,260 in January 1889. The seven months ending January 31, however, show an increase, the figures for 1890 being \$32,295,963 and for 1889 being \$29,932,500.

The total exports of cotton during January last were 286,816,569 lb, valued at \$28,869,103, against 275,351,368 lb, valued at \$27,394,239 in January, 1889. The total value of the exports for the five months ending January 31 was \$181,619,160 in 1890 and \$149,534,873 in 1889.

Exports for the week from New York were \$7,960,840; imports, \$11,206,601; specie exports, \$500,000.

The Dixon Crucible Company, which has been in the hands of a receiver for several years, has negotiated a loan of \$500,000 to pay off its indebtedness, and arrangements are being completed to take it out of the receiver's hands.

## Coal Market.

Anthracite Coal is without change. Aside from a formal resolve on the part of producers to restrict shipments for March to 2,000,000 tons, the same as for February, there are no altered conditions. Both production and prices are in a large measure beyond control, as important firms not recognized among the six companies profess supreme indifference respecting the actions of their rivals. Prices weaken under a sluggish demand, except for sizes suited to the wants of manufacturers. Respecting the spring circular much interest is felt, but there are no developments. Last week's Coal shipment over the Pennsylvania system of roads was 255,000 tons, and of Coke 124,310 tons. That company handled so far this year 260,000 tons of Coal and Coke more than at this time last year.

Anthracite Coal production, compiled by the chief of the Bureau of Anthracite Coal Statistics, for January:

	1890. Tons.	1889. Tons.	Decrease. Tons.
Wyoming....	1,081,253	1,316,734	235,480
Lehigh.....	486,845	536,985	50,140
Schuylkill...	713,479	768,809	55,329
Totals.....	2,281,578	2,622,529	340,950

The stock of Coal on hand at tidewater shipping points on January 31, 1890, was 1,138,927 tons; on December 31, 1889, 1,026,107 tons—increase, 112,820 tons. Statement of shipments of Anthracite for the week ended February 8, 1890, compared with the same period last year:

	1890. Tons.	1889. Tons.	Inc. Tons.
Wyoming.....	268,609	294,116	4,493
Lehigh.....	105,550	96,877	8,673
Schuylkill.....	153,673	134,021	19,652
Totals.....	527,832	495,014	32,818
From Jan. 1, 1889, 189	2,894,819	3,261,757	Dec. 366,938

Vessels are scarce, many having been diverted to the Maine ice trade.

In two instances during the past week coal barges rounding the Battery have been sunk by collision, with heavy losses. Three cars from a Pennsylvania float went overboard.

The Bituminous Coal trade after this date is expected to receive a new impetus from the closing of new contracts, several of which are important. Figures are understood, but not definitely announced. All Bituminous companies are seeking to enlarge their trade in New England and tidewater markets. The Virginia Coal producers are promised additional coastwise facilities to stimulate deliveries of Soft Coal between Norfolk and New England points.

## Metal Market.

**Copper.**—At the time of our last week's report London stood £46. 17/6, spot, and futures £47. 10/-. The quotation this morning is £47. 17/6 and £48. 10/ respectively. Sales during the interval 2000 tons. Here the lots offering from second hands have been gradually absorbed by current consumption, so that on applying to the lake companies for a round lot 14½¢ has to be paid. Casting brands may be quoted 12½¢ @ 13½¢. The annual report of the Osceola Copper Mining Company for 1889 shows a total product of 4,534,127 lb of Copper, against 4,134,320 in 1888, the largest output for any year in the company's history. Average price received was 11.94¢  $\frac{1}{2}$  lb, against 15.03¢ in 1888. Total receipts \$542,990.74; expenses at mine, \$388,307.59; smelting, transportation, and selling, \$67,476.42; expended for construction, \$32,145.66; dividend of \$1  $\frac{1}{2}$  share, \$50,000; surplus for year, \$5061.07;



total balance of assets January 1, 1890, \$209,746.22. The superintendent's report says that the year's work leaves the mine in better shape, prospectively, than for a long time. Total assets aggregate \$273,833.06; liabilities, \$64,086.84; balance as above. Although the product was greater, the receipts were less than in 1888 by \$79,762.99, owing to smaller price of producing, treating and laying down in New York, which was 10.05¢ per lb, against 11.61¢ in 1888. The company paid three dividends, \$50,000 each, or \$3 per share, in 1888, and but one in 1889, the mining profit having been \$54,870.16 less, but they expect to pay four \$1 dividends this year.

**Tin.**—The London quotation a week since was £90. 7/6 spot and £91. 7/6 futures; this morning it is £91. 7/6 and £92 respectively; sales in the meantime summing up 500 tons. After some 400 tons changed hands here on the spot and "to arrive" the metal is now held by strong parties and very firm on the basis of 20½¢ spot to-day. **Tin Plates.**—The market here continues in a very unsatisfactory state and the dealers' prices on several specialties are still below the cost of importation. On the other hand, the makers are showing a very bold front, fighting a decline in every possible way, several of the works being closed rather than make concessions. And this with the advance in the price of Iron this week may enable them to carry their point. We quote at the close per box: Siemens-Martin Steel, Charcoal finish, \$5.50 @ \$5.75; Coke finish, \$5.20 @ \$5.25; Coke Tins, Penlan grade, \$4.60 @ \$4.65; J. B. grade, \$4.80 @ \$4.85, and Wasters, \$4.50.

**Lead.**—Sales for the week have reached 1000 tons, some of it being corroding Lead, selling at 3½¢, the balance, Common Domestic, at 3.75¢ @ 3.77½¢; while far away futures command 3.85¢, the closing quotations 3.80¢ @ 3.85¢, with 3.75¢ freely bid. The draft of the new Mexican reciprocity treaty, again elaborated by Mr. Romero, has been submitted to Mr. Blaine, who, it is stated, approves of it. It would be a great card for Mr. Blaine. It would leave all Mexican Lead Ores to enter this country duty free.

**Spelter.**—The domestic Spelter market is paralyzed in New York. The West offers Common Domestic at East St. Louis at 5.10¢, which would be 5.34¢ here, but other offers are dropping in at 5½¢ without buyers. Silesian, meanwhile, recovered £2 to £23. 5/ and cannot be laid down here for less than 7½¢.

**Antimony.**—There is no change. We quote Cookson's 31¢ and Hallett's 20½¢ @ 21¢.

### New York Metal Exchange.

The following sales are reported:

#### THURSDAY, February 13.

10 tons Tin, February.....	20.45¢
20 tons Tin, March.....	20.20¢
25 tons Tin, April.....	20.25¢
10 tons Tin, February.....	20.40¢
20 tons Tin, first week March.....	20.30¢
16 tons Lead, February.....	3.80¢

#### FRIDAY, February 14.

10 tons Tin, April.....	20.30¢
10 tons Tin, February.....	20.55¢
20 tons Tin, spot.....	20.60¢
10 tons Tin, February.....	20.60¢

#### SATURDAY, February 15.

10 tons Tin, April.....	20.45¢
35 tons Tin, April.....	20.40¢

#### MONDAY, February 17.

10 tons Tin, spot.....	20.70¢
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#### TUESDAY, February 18.

10 tons Tin, April.....	20.30¢
100 tons Tin, March.....	20.40¢
100 tons Tin, April.....	20.40¢

#### WEDNESDAY, February 19

65 tons Tin, April.....	20.25¢
50 tons Tin, April.....	20.20¢

## Imports.

### Hardware, Machinery, &c.

Boker, Hermann & Co., Mdse., cs., 10  
Clark, G. A. & Co., Mach'y, cs., 82  
Commercial Express Company, Mach'y, pgs., 25  
Degrauw, Aymar & Co., Chains, 6; do., cks., 2  
Electrical Cutlery Co., Mdse., cs., 3  
Hammacher, Schlemmer & Co., Iron Hook Nails, cs., 38  
Korting Engine Co., Mach'y, cs., 3  
Newal Universal M. Co., Mach'y, case, 1  
Sheldon, G. W. & Co., Mach'y, cs., 19  
Strange, W., Mach'y, cs., 6  
Stransky & Co., Ironware, cs., 56  
Witte, John G. & Bro., Cutlery, cs., 21  
Order—Mch'y, cs., 4

## British Iron and Metal Markets.

[Special Cable Dispatch to The Iron Age.]

LONDON, WEDNESDAY, February 19, 1890.

The Pig Iron warrant market has improved somewhat. Early in the week there was some selling on the part of disappointed holders, and that together with anxiety as to whether settlements would be duly met and one failure had a bad effect. Prospects of easier money rates have a tendency to encourage purchases and give the market better tone. There is also some improvement in the trade demand. Makers' prices for Scotch brands, Middlesborough and Hematites are nearly the same as they were a week ago.

Copper has been in more active demand the past few days for speculation and consumption. Stocks are steadily decreasing. Only 560 tons were received from America during the first half of the month, and furnace material is becoming scarce. Montana ordinary Matte is selling at 10/ per unit. The French holders of Matte have about 23,600 tons on hand, and surprise is expressed that they do not realize in preference to selling bars. During the past fortnight there have been sales of 1075 tons Anaconda Argentiferous on private terms; 415 tons Montana at 10/ per unit and 100 tons Montana at 10/3, all at Liverpool. A large portion of the warrants placed upon the market by French bankers 10 days ago is now being absorbed by consumers, but in view of the sharp fall caused by the large quantity offered a short time ago they act with caution in purchasing for future delivery.

The demand for Pig Tin has been stronger, and prices are showing more firmness. The question of increased production has unsettled confidence to some extent, but it is believed that prospective supplies have been overestimated.

Actual business in Tin Plate has been moderate, but inquiries are more numerous and the tone of the market is better. The movement in the direction of a general shortening of work at the mills has made no progress, and the scheme to reduce production seems to be dead.

Steel of nearly all descriptions is held at last week's figures, with the demand fairly active for Billets and Slabs, but slower for Rails. Wire Rods are offered at 5/ under the prices asked a week ago.

**Cleveland Pig.**—There has been a better trade, and the market is firmer. Makers still quote at 60/ for No. 3 Middlesborough.

**Scotch Pig.**—Business has been somewhat more active, and the market shows better tone. Prices have varied to a moderate extent only:

No. 1 Coltness, f.o.b. Glasgow.....	75/
No. 1 Summerlee, " ".....	74/
No. 1 Gartsherrie, " ".....	73/
No. 1 Langloan, " ".....	73/
No. 1 Carnbroe, " ".....	57/
No. 1 Shotts, " at Leith.....	75/
No. 1 Glengarnock, " Ardrossan.....	74/
No. 1 Dalmellington, " ".....	63/
No. 1 Eghnton, " ".....	57/6

Steamer freights, Glasgow to New York, 3/; Liverpool to New York, 10/.

**Bessemer Pig.**—Trade in this line has been moderate, makers' prices being above buyers' views. West Coast brands, mixed numbers, held at 82/ f.o.b. shipping point.

**Spiegeleisen.**—In this material business has continued inactive, and sellers are firm, quoting English 20 1/2 130/ f.o.b. at works.

**Steel Rails.**—Orders have fallen off somewhat, but makers hold firmly for previous prices. Heavy sections quoted at £7. 5 and light sections £7.15 @ £8, f.o.b. at N. W. England shipping point.

**Steel Blooms.**—The demand fairly active and prices quite firm. We quote £7 for 7 x 7, f.o.b. at N. W. England shipping point.

**Steel Billets.**—There is still a good demand and prices remain firm. Bessemer, 2½ x 2½ inch, £7, f.o.b. at N. W. England shipping point.

**Steel Slabs.**—Former prices rule and the market is firm, with demand fairly active. Bessemer, £7, f.o.b. at N. W. England shipping point.

**Old Rails.**—Very little business doing. Buyers and sellers still apart. Tees quoted at £4. 2/6 @ £4. 5/, and Double-Heads £4. 5/ @ £4. 10/, f.o.b.

**Scrap Iron.**—The market without change. Heavy Wrought quoted £3. 10/ @ £3. 15/.

**Crop Ends.**—A moderate business doing at previous prices. Bessemer quoted £3. 12/6 @ £3. 15/, f.o.b.

**Tin Plate.**—Very little improvement in sales, buyers and sellers being apart. We quote, f.o.b. Liverpool:

1C Charcoal, Alloway grade.....	17/6 @ 18/
1C Bessemer Steel, Coke finish.....	16/3 @ 16/6
1C Siemens " ".....	16/6 @ 16/
1C Coke, B. V. grade.....	15/6 @ 15/9
Charcoal Terne, Dean grade.....	14/6 @ 15/

**Manufactured Iron.**—There has been a fair trade and prices have improved except for Welsh Bars, which are lower. We quote, f.o.b. Liverpool:

Staff, Marked Bars.....	10	0	0	@	0	0	0
" Common ".....	9	0	0	@	9	5	0
Staff, Bl'k Sheet, singles.....	11	0	0	@	11	5	0
Welsh Bars (f.o.b. Wales).....	7	17	6	@	0	0	0

**Tin.**—The demand fairly active and the market firm. Straits quoted at £91. 15/, spot, and £92 for three months' futures.

**Copper.**—Demand has continued brisk and prices are firm. Chili Bars quoted at £47. 15/, spot, and £48. 5/, three months' futures. Best Selected, £55.

**Lead.**—The market rather steadier but quiet. Quoted at £12. 15/ for Soft Spanish.

**Spelter.**—There has been a decided improvement and prices are higher. Quoted at £22. 15/ for Ordinary Silesian.

## MARKETS BY TELEGRAPH.

WEDNESDAY AFTERNOON.

## Pittsburgh.

Continued feeling of uncertainty in regard to general Iron and Steel trade. Some brokers report an improvement in the outlook, while others can discover no change. Demand for Pig Iron continues light, while some holders are anxious to sell. The general belief, however, is that market will not go much if any lower. A cargo of 3000 tons of Alabama Iron is on the way to market by river. Old Iron Rails dull and drooping. It is said that at present price of Muck Bar Rails should not be more than \$26 @ \$26.50. Muck Bar is reported as having been offered as low as \$29.50 and even \$29. Some authorities report better demand for Steel Billets, and aver that any sales under \$35 @ \$35.50 must have been made under peculiar circumstances—that something is back of it.

## Cincinnati.

Thus far during the present week the local market for Pig Iron has been dull; there has been less pressure to sell Iron held in second hands, and furnaces have offered no further inducements to buyers. Consumers, however, display no anxiety; having secured some concessions, they expect greater inducements. Indications of a revival in industrial branches dependent upon Iron, however, impart a feeling of confidence to buyers and sellers of Pig alike. The Strong Engine Company have taken office room in the Chamber of Commerce Building, and the plant will be located soon. The increased mercantile and industrial activity, present and prospective, has made a decided impression upon the money market, interest rates are higher and still hardening. Small sales of Old Wheels have been made at \$19 and Southern Rails at \$26, cash basis.

## Chicago.

The most remarkable feature of this market is the increasing demand for Old Steel Rails, offers of \$22.50 now being received for lengths over 3 feet. Supply limited as compared with new uses opening for them. Old Iron Rails are weak, in marked contrast. Buyers are holding off, believing prices will be lower. Sales of a few speculative lots of Pig Iron at cut rates have caused some little disturbance, but more among sellers of Southern than Northern Iron. Northern makers are fairly firm and take a confident view of the situation, reporting good business in medium grade Foundry Iron, with large schemes in prospect which will consume a great deal of Iron. Bars are quiet, orders in sight failing to materialize, but prices are unchanged.

The Secretary of the Navy, on Tuesday rejected the bids of Samuel Moore & Sons, of Elizabethport, N. J., for the construction of two 1000-ton gunboats and an 800-ton practice vessel on the ground that they do not possess the necessary plant for the work. The other bids were as follows: Bath Iron Works, 1 gunboat \$327,000, both \$637,000; Atlantic Iron Works, 1

gunboat, \$344,000. It is now for the Secretary to determine whether he will accept any of the remaining bids.

## Foreign Markets.

## EQUIVALENTS.

	Cents.
Franc, Peseta or Lira.....	10.3
Florin (Netherlands).....	40.2
Florin (Austria).....	35.9
Wlreia (Portugal).....	41.08
Milreis (Brazil).....	54.6
Mark (Germany).....	23.8
Kilogram.....	2.205
Picul.....	134.

## EAST INDIES.

PENANG, January 7, 1890.—*Tin*.—Our last report was dated December 23, since when arrivals have summed up some 17,000 piculs, of which Europeans bought 7000 and Chinamen 7500. The market opened at \$36.31, and gave way to \$35.17, the quotation at the close. *India Rubber*.—A small lot was sold at \$66 ½ picul.—*Schmidt, Kustermann & Co.*

## CHILI.

VALPARAISO, December 20, 1889.—*Copper*.—London having recovered to £49. 17/6, agents of mine owners have intimated exporters that they are at length disposed to resume sales, and the negotiations now pending may lead to a fair amount of business. *Coal*.—There are no buyers for Coal afloat, December, January sail. As for cargoes just landed, they brought 55/ West Hartly, and 51/ Orrell, while Australian went at 43/. *Exchange* has been steady at 25½d., 90 days' sight on London.—*Weber & Co*

## CHINA.

HONG KONG, January 1, 1890.—*Petroleum*.—The market is quiet and the tone rather weaker in consequence of large arrivals. There are no prospects of an improvement until after the native holidays. Supplies from Shanghai and Japan have contributed to bring about the present depression. Quotations, \$2.20 @ \$2.30 ½ case Comet Oil. Sales 60,000 cases on private terms; arrivals from New York in three days, 147,039 cases; from Shanghai, 24,000; together 171,039 cases.—*Arnhold, Karberg & Co.*

## RUSSIA.

ODESSA, February 6, 1890.—*Petroleum*.—The January falling off in production at Baku and vicinity has been so serious that the price of raw has doubled, and that Nobel Brothers have had to procure supplies from Bibicebat, where the wells still produce in full. The Rothschilds have sent engineers to Balachony to undertake boring in that region.—*Odessa Gazette*

## HOLLAND.

ROTTERDAM, January 31, 1890.—*Tin*.—A public sale of about 13,000 piculs Billiton will be held at Batavia on February 25. The following statement shows the position of Banca Tin in Holland on the 31st January, from the official returns published by the Dutch Trading Company:

	1890.	1889.
Slabs.		
Import in January.....	3,904	15,000
Deliveries in January.....	8,783	7,950
Stock, second hand.....	36,953	42,940
Unsold stock.....	131,652	129,371
Total stock.....	168,605	172,311
Afloat, piculs.....	3,500	5,000
Statement of Billiton.		
	1890.	1889.
Slabs.		
Import in January.....	22,200	3,298
Deliveries in January.....	10,900	4,535
Stock.....	41,807	19,561
Afloat.....	12,000	17,000
Quotation 31st January,		
Banca.....	fl. 57¼	fl. 58¼
Quotation 31st January,		
Billiton.....	fl. 56¼	fl. 58¼

Export of Tin from Holland.  
Eleven months.

	1889.	1888.	1887.
	Tons.	Tons.	Tons.
To Germany.....	5,780	5,866	4,849
To England.....	144	160	360
To Belgium.....	874	732	859
To France.....	253	377	354
To Hamburg.....	525	373	543
To the United States.....	403	375	562
To other countries.....	550	616	788
Totals.....	8,529	8,499	8,315

—De Monchy &amp; Havelaar.

## SWEDEN.

STOCKHOLM, February 7, 1890.—*Iron*.—The Iron and Steel export from Sweden in 1889 has been 32,152 tons, against 27,101 in 1888. Swe-

den has been launching out into all sorts of industrial, &c., enterprises last year, and a new spirit seems to be taking hold of business men in most branches, the number of new stock companies created in all 1889 having been 193, with a joint capital of \$25,000,000, American.—*Dagbladet*.

## SPAIN.

BILBAO, January 25, 1890.—*Iron Ore*.—Has been moderately active at 8/6 @ 9/3 Superior, and 8/ @ 8/6 Inferior Rubios and 11/6 @ 12/ Campanil. Since the 1st inst., the export amounts to 230,637 tons, against 286,115 in 1889, and 276,019 in 1888. *Pig Iron*.—The January export has so far been 3284 tons, while coastwise shipments reached 3221.—*Bilbao Maritimo y Comercial*.

**The Duty on Ramrods.**—The Treasury Department has sustained the Collector at New York in assessing duty at 50 per cent. ad valorem on certain ramrods for guns which are returned by the Appraiser as unenumerated manufactures of steel. The appellants claimed that the articles were dutiable at 2 cents per pound for the malleable iron castings thereof and 2½ cents per pound for the forged parts, or at 25 per cent. ad valorem as parts of fire-arms, or at the most at 35 per cent. ad valorem as parts of sporting breech-loading shotguns or pistols. The Department decided in a case which arose in 1884 that certain nipples, worms and plungers for guns, being simple accompaniments of guns, were dutiable as manufactures of steel not specially enumerated or provided for, and the decision in the present case follows the principle then laid down. The Department, while admitting that ramrods are parts of fire-arms, rejects the claim that the articles are dutiable as such because there is no provision in the existing tariff for "parts of fire-arms."

Riker & Huckel, 22 Cortlandt street, New York, manufacturers of the Simplex steam pumps, whose works at Esopus, N. Y. were destroyed by fire a few weeks ago, are fitting up a shop in this city where they will make their pumps while the old works are being rebuilt. They expect to be able to fill orders within a month or two.

A combination of manufacturers of agricultural and horticultural implements was effected at Utica, on the 18th inst., by the organization of a corporation to be known as the Central Steel Goods Company. The capital stock is \$1,000,000. The officers are: President, Robert Nixon, of Terre Haute, Ind.; vice-president, John P. W. Brown, of Nashville, Tenn.; treasurer, William J. Millard, of Clayville, N. Y.; secretary, Ladd J. Lewis, of Nashville, Tenn. The concerns which will be merged into the new corporation are five in number and now manufacture over half the hoes, rakes, forks, shovels, &c., that are made in the country. The sales office will be located in Chicago.

The majority of the Committee on Ways and Means was addressed on Tuesday by a committee of the Wholesale Hardware Association, made up of President Saxton, F. A. Boker, Charles H. Graef and others. These gentlemen protested in the name of 283 wholesale firms in the United States against any new increase in the duties on cutlery and fire-arms.

The Wheeling Development Company, composed of prominent manufacturers of Wheeling, W. Va., has been formed at that place for the purpose of thoroughly testing the land in that vicinity for natural gas. It is proposed to put down wells at least 4000 feet if necessary and to keep careful record of strata gone through. It is also proposed to test the coal for the purpose of seeing if it can be used for coking coal. N. B. Scott is president and J. C. Brady, of the Wheeling Hinge Company, is secretary of the company.



# Hardware.

A fair business is doing, but the demand is not especially heavy. Travelers who are on the road generally refer to business throughout the country as moderate, owing in large part to the season and the character of the winter, but a hopeful feeling prevails and there are no visible reasons why the season's business should not be good. In the matter of prices there is little to report. The advances which have been made are with scarcely an exception steadily held, but during the past week or two there have been very few instances of upward movement. The strength in the foreign market which has existed for some time still continues, and advices are constantly being received of advances in certain lines of goods. The changes which have thus taken place during the past few months are in a few lines interfering to a certain extent with the importation of the goods, and if the present tendency continues it is likely that this influence will be felt to a still greater extent. All the indications point to a continued strength in the English and German markets for Hardware, a feature of the situation which has an important bearing on the condition of the market in this country. It will thus contribute not a little to the strengthening of prices here and the doing of a satisfactory business.

## Wire Nails.

The market is perhaps a shade stronger than at our last report, as some of the exceptional offerings at low prices have been withdrawn. A good many Nails have been sold, and the manufacturers, being pretty well supplied with orders, are not so much disposed to make concessions as a few weeks ago. The regular quotation for carload lots is on the basis of \$2.90 at factory, but a slight shading is obtainable in some instances.

## Cut Nails.

For some time past the Nail manufacturers have been receiving requests from various Hardware associations and individual jobbers throughout the country asking for such a change in the schedule of extras on Cut Nails as would enable them to buy what Nails were needed for stock without regard to specifications or averages. At the meeting of the Western Cut Nail Association held in Wheeling on the 12th inst. a new schedule was adopted. The only changes in card are making 50d and 60d base, instead of 12d to 40d, as heretofore, and adding smaller extras on 40d, 30d, 20d, 16d, 12d and 10d. We print below side by side the old and the new card.

	Card Dec. 12.	Feb. 12
Nails, Fence, and Brads:	1888.	1890.
50 to 60d.....	\$0.25	Base
40d.....	Base	\$0.05
30d.....	Base	.10
20d, 16d and 12d.....	Base	.15
10d.....	\$0.10	.20

All the other sizes are unchanged.

## Miscellaneous Prices.

The prices of heavy goods are in nearly all cases steadily maintained, and the market is characterized by a confident tone.

Humason & Beckley Mfg. Company, New Britain, Ct., and New York, have issued a revised list of Corkscrews for insertion in their catalogue of January 1, 1888. The list is compact in form, giving simply the number of the Corkscrew, the page in catalogue and the list price. It is to be noted, however, that a number of new patterns of these goods have recently been put on the market by this company, making their line of Corkscrews exceptionally complete.

Stanley Works, New Britain, Conn., and 79 Chambers, street, New York, in their recently issued discount sheet bring their quotations up to the present condition of the market. The most important changes are in Tacks, which are now made to conform to those of other manufacturers. For the convenience of the trade the changes in quotation are indicated by asterisks in connection with the goods the prices of which are thus revised.

The following are the prices of the Police Goods manufactured by the John P. Lovell Arms Company, Boston, Mass. The list given is subject to a discount of 75 per cent.:

Police Clubs:	Per doz.
8-inch Leather Clubs, with Swivel..	\$18.00
10 " " " " " "	21.00
12 " " " " " "	24.00
14 " " " " " "	27.00
8 " " " " " "	30.00
10 " " " " " "	35.00
12 " " " " " "	36.00
14 " " " " " "	39.00
Leatheroid Clubs, 10-inch.....	21.00
" " " " " "	24.00
" " " " " "	27.00
" " " " " "	24.00
" " " " " "	27.00
Police Calls, with Chain.....	12.00
Hand-Cuffs, Nickel-Plated. No. 1, Patrolman.....	57.00
Hand-Cuffs, Polished. No. 1, Patrolman.....	48.00
" " Nickel-Plated. No. 1, Prison.....	57.00
" " Polished. No. 2, Prison.....	48.00
" " Giant, No. 3, Nickeled.....	72.00
" " Single, with Chain and Loop.....	42.00
" " and Neck-Band combined.....	108.00
Leg Irons, Nickel-Plated.....	84.00
" " Polished.....	72.00
Single Leg Iron, with 12-pound Ball and Chain.....	60.00
Single Leg Iron, with 18-pound Ball and Chain.....	66.00
Single Leg Iron, with 25-pound Ball and Chain.....	72.00
Single Leg Iron, with 35-pound Ball and Chain.....	78.00
Single Leg Iron, with 50-pound Ball and Chain.....	84.00
Leg Irons, in pairs, with 12-pound Ball and Chain.....	96.00
Leg Irons, in pairs, with 18-pound Ball and Chain.....	99.00
Leg Irons, in pairs, with 25-pound Ball and Chain.....	102.00
Leg Irons, in pairs, with 35-pound Ball and Chain.....	105.00
Leg Irons, in pairs, with 50-pound Ball and Chain.....	108.00
Police Hook, Nickel-Plated.....	15.00
Chain Twisters, Nickel-Plated.....	12.00
Pocket Holster.....	12.00
Paralyzer, with Swivel.....	15.00
" " with Whistle.....	18.00
Boston Bilet.....	24.00
Hand-Cuff Pocket.....	6.00
Police Dark Lantern.....	36.00
Connecting Chain for Hand-Cuffs....	12.00

Francis Threm Sons, 594-598 Walnut street, Cincinnati, issue a price-list of Wooden Faucets, Bungs and Beech Shavings. D. H. Wilson & Co., New York, are their agents. The following is their price-list for Faucets, which is subject to a discount of 40 per cent.:

Size.	Per gross.
7 inches.....	\$7.40
8 ".....	7.60
9 ".....	9.50
10 ".....	12.00

Size.	Per gross.
7 inches.....	\$13.00
8 ".....	14.75
9 ".....	18.50
10 ".....	22.25

Size.	Per dozen.
12 " Beer Faucets.....	3.00
20 " ".....	4.60

Size.	Per gross.
7 inches.....	\$10.20
8 ".....	11.10
9 ".....	13.00
10 ".....	15.75

Size.	Per dozen.
7 inches.....	\$2.25
8 ".....	2.50
9 ".....	2.95
10 ".....	3.40
12 " Beer Faucets, Iron Ferrule ..	4.00
20 " " " " " ".....	5.00

## Barb Wire.

Prices in the New York market continue without change, with a demand which may be referred to as fair. Quotations are on the basis of 4 cents for Four-Point Galvanized in carload lots, 4.1 cents for 3-ton lots and 4.3 cents for small lots, with customary deliveries.

## Items.

Hibbard, Spencer, Bartlett & Co., of Chicago, have issued a 40-page catalogue of Diamond Steel Goods, Agricultural Implements and Farm and Garden Supplies generally. This catalogue is very complete and well worthy of preservation for reference. It is profusely illustrated.

Acme Shear Company, Bridgeport, Conn., are pushing energetically the sale of their new cast Ajax Tinner's Shears, the general appearance of which is similar to a steel Shear. The edges are chilled and referred to as hard as steel, the article being a very serviceable one offered at a much less price than the regular goods. They also call attention to the fact that imitations are being offered, the edges of which are not hard, and which are consequently worthless. It is suggested that by means of a file they may be tested before purchasing.

Wells & Nelligar Company, of Chicago, have issued their usual spring circular, calling attention to the lines which they handle, embracing Steel Goods, Refrigerators and other articles now in demand by the retail trade. They make the following trade comments: "While it is true that, in comparison with last summer, heavy goods are somewhat higher, it is also true that staple goods are very cheap compared with the cost of raw material, and many of them could not be made at our present prices if manufacturers were buying raw material at this time. It seems very evident, therefore, that higher prices must prevail, and we suggest to customers that they anticipate their wants for spring trade."

L. S. Starrett, Athol, Mass., is sending out his catalogue with description of recent improvements made in his Speeded Screw Micrometer, of which a full-sized cut is given.

The Simmons Hardware Company, St. Louis, issue a striking price-current for February. The first page contains effective illustrations of their main building, offices and warehouses, and indicates something of the extent of their famous establishment. In their circular to the trade they state that they are now ready for the season of 1890 with increased facilities and a larger stock and the greatest variety of choice Hardware ever offered in America. Apart from leading staple goods, desirable novelties and specialties are thus offered and some of these are illustrated in their circular, in which seasonable goods have a prominent place.

The business formerly carried on at 189 Devonshire street and 669 Washington street, Boston, under the name of Nichols, Bellamy & Co. will hereafter be conducted by John Bellamy, at 27 Eliot street. He will continue to carry a line of Hardware trimmings for buildings, besides a complete stock of Tools, Cutlery, Dog Collars and General Hardware.

The F. F. Adams Company, Erie, Pa., have issued a new and attractive catalogue of their well-known line of goods, to which they have recently made several interesting additions. Among these may be mentioned their Cold Wave Refrigerator, which is a new departure, inasmuch as it is constructed of sheet steel galvanized. It is described as made in sections, so that each side, top and bottom form a complete air-tight compartment. The

Keystone Rat Trap is also illustrated, and the Exterminator Rat and Game Trap. The Dauntless Bicycle has also been added to their line, and is described as a good, strong and serviceable machine offered at a reasonable price.

Cordley & Hayes, 173 and 175 Duane street, New York, have been appointed agents for New York and vicinity for the specialties manufactured by Sidney Shepard & Co., Buffalo, N. Y.

The Gooch Freezer Company, Cincinnati, Ohio, issue a striking circular calling attention to their line of Freezers. Of these they are making four styles, the Peerless, Zero, Pet and Boss. Beside the regular sizes of Peerless they also make the Giant Peerless, with fly-wheel for power.

Muncie Novelty and Brass Company, Muncie, Ind., issue a circular relating to Rung's patent Display Frame for show-windows, an illustration of which is given. They state that they have purchased the entire plant and patents of Rung & Putnam, Rochester, N. Y., and have associated with them the senior member of the firm, Henry Rung. A description is given of their Display Frame and also information in regard to other related goods.

Francis Threm Sons, Cincinnati, Ohio, manufacturers of Track, Bridge, Roof and Drift Bolts and Boiler, Bridge and Girder Rivets, issue a price-list in convenient form containing list prices of Carriage, Tire, Machine and other Bolts, Nuts, Washers, &c.

Stevens Filter Company, Toledo, Ohio, issue a neat catalogue illustrating the construction of their Filters and pointing out their advantages. Illustrations are also given of the variety of sizes and styles which they are making and testimonials from a number of persons who are familiar with the goods.

Harmon & Dixon, 118 Chambers street, New York, agents for the Barnes Mfg. Company, New Haven, Conn., makers of the well known Horseshoe Padlocks, Night Latches, &c., announce to the trade that the factory will continue to be run under the management of M. C. Kellogg, as receiver. Erroneous reports have been circulated to the effect that owing to the failure of Sise, Gibson & Co. the factory would be closed. Harmon & Dixon beg to state that all orders for these goods will be filled by them promptly, and trust the trade will favor them with their orders.

The National Horse Nail Company, Vergennes, Vt., for whom J. C. McCarty & Co. are agents, 97 Chambers street, New York, have issued a striking and attractive calendar, in which the pictorial part is taken from Rosa Bonheur's famous Horse Fair. The calendar also gives an illustration of the works of the company and some of the leading patterns of Nails manufactured by them. These include the Nails with short heads for hand-made shoes, those with regular heads for machine-made and the Bryden and Good-Enough heads.

The Oliver Chilled Plow Works, South Bend, Ind., issue an interesting pamphlet called "The Oliver Alphabet," in which in the manner indicated by the name the goods they make and their advantages are effectively brought to the attention of the trade in rhyme with illustration. They also call attention in prose in business-like manner to the line of goods they manufacture and the advantages possessed by them.

C. Cowles & Co., New Haven, Conn., have issued their catalogue for 1890 of Carriage Hardware and Trimmings. It is an elegantly printed volume of 144 pages, fully illustrated, with prices of goods. In

addition to the articles shown it is intimated that they are constantly adding new lines, and they solicit correspondence on any articles wanted. Special Lamp catalogues are issued the first of each year showing the new designs which they are putting on the market. They also call special attention to their Eclipse Tricycles, of which they are sole manufacturers, and a special catalogue is devoted to them. Among the articles manufactured by the company are Corner Irons, which they are now making in flat and oval. They have recently secured a patent on a machine for straightening Corner Irons flat, which they advise us enables them to put them on the market exactly true and square at the corners and ready to fit on the body without any extra work. Their Oval Corner Irons they are making without a weld at the corner by special machinery, the holes being made all at one time, and exactly in the middle of the Iron.

White, Clyde & Co., Westboro, Mass., issue an interesting pamphlet devoted to the illustration of the Broncho Safety Bicycle, a full description of which is given. A variety of articles for cyclists' use are also shown.

Alfred C. Rex & Co., Philadelphia, under date February 10, announce that they have added to their line of Czar Skates, which were received so favorably the past two years, a cheaper Skate than their No. 10, and allude to the exceptionally complete line they are now putting on the market. It is also stated that their Mr. C. A. G. Riegé will call upon the trade in March offering these Skates and a new line of Drop Forged Steel Hammers and Hatchets.

Among the special notices on page 55 will be found one signed "Box 189," Buffalo, N. Y., in which an old established business firm in that city express the desire to purchase or take in some other legitimate line of Hardware or Metals that would be benefited by such a connection. Allusion is also made to the capital and manufacturing facilities of the advertiser and the favorable location of the city, and the announcement will no doubt secure the attention of those for whom it is specially intended.

#### Obtaining Goods for Customers.

A well-known Michigan house, referring to the question as to the feasibility of merchants doing any considerable business in selling goods not carried in stock, refer to their experience and methods as follows:

We have always sold goods not carried in stock and try to keep ourselves posted in regard to such articles. We have worked up such a reputation in that respect that we often have inquiries for a class of goods not belonging to the Hardware business at all. We always charge a good fair profit on these goods. If the goods are such as we have little or no acquaintance with we tell our customer the fact and also that we get the goods at his risk as to quality, &c. If the article wanted is of small value we ask the house that we buy of in New York to get it for us and they always do, sometimes at a better price than we could buy direct, as we think the jobber often charges no profit on the goods and never but little. We also keep samples of some articles like tile, &c., and only order when we get a customer. Many goods that are but seldom called for and never in a hurry we sell from sample.

A correspondent in the South writing on this subject says:

I sell a great many goods on order which I cannot afford to carry in stock. I take Russell & Erwin's or Sargent's book and figure prices from them, and to make my-

self safe on freights I have indexed A B C book wherein I put the rates of freights, estimating from goods bought previously: Hardware, per cent. . . ; Crockery, per cent. . . ; Wire, per pound. . . ; Nails, per keg. . . So on, indefinitely. For instance, you come in and want an Anvil—I turn to catalogue and find list so and so, my discount so and so. Weight of Anvil, say 300, turn to my index and find Anvils so much per 100. I then can come very close to cost and know what to ask.

Referring to the advantages of supplying customers with goods that they need, although they are not regularly carried in stock, a Hardware merchant writes from Texas as follows:

I consider selling goods not carried in stock advisable to all Hardware dealers. There can be some profit made and it sometimes leads to the introduction of new lines of goods that are profitable to keep. At the same time it advertises a business. Customers knowing your willingness to buy for them goods not carried in stock or in the country will go to you first. I try to keep myself posted by taking care of all catalogues and price-lists, thus having them for ready reference and enabling me to take all such orders when offered, from which practice I derive a reasonable profit every year.

The following from a house in Missouri gives another point in regard to this matter:

Anything out of our line we require money in advance and a fair commission. We are in the business for what money there is in it and not for our health, and never miss an order if there is a fair margin in it.

#### Trade Topics.

In regard to the Patrons of Husbandry and other organizations of farmers for trade purposes we have received the following letter from Illinois, in which our correspondent, who is thoroughly familiar with the condition of trade in that State, refers to the way that such movements are regarded. He alludes also to the condition of business and other matters of interest:

The Patrons of Industry or Farmers' Alliance have not made much progress in this section. They have attempted what seems impracticable—that is, to buy goods of merchants at 10 per cent., the merchant to pay all freights, show up all his bills, &c. It is an absurd proposition and the merchants simply laugh at them and there is no possibility of the scheme being carried out without bankruptcy to the dealer. I hear of some places, however, where some merchants fearing to refuse have put themselves in the hands of these people. We would not sell such a man goods, for either he is a foolish man or a knave, and his trade would be unsatisfactory in the long run. Retail trade is exceedingly quiet. Price of grain is low and the roads are in bad condition. Merchants, however, are very hopeful. Collections are slow, yet I hear of no failures in our line in this section.

Referring to the same matter, we have the following letter from Tennessee, in which it will be observed that our correspondents refer to the farmers' movement under another name:

We see in your paper of the 13th a long article about the Patrons of Industry. This organization must be something like our Farmers' Alliance, which is causing us some trouble here. They have made same request of us that they did of the merchants in Michigan. As yet we only know



of one merchant, and he a dry goods man, who has signed with them. We refused to do so for the reason that we know no one who can deal as they request and act fair. And then it would be a very great injustice to our customers. In fact, think if we should do such that it would soon drive other customers away, and we would in consequence have to retire from business. A few cross-road stores have consented, but our opinion is that it will not last long, and the farmer, like every one else, will sell to the highest bidder. A brings 25 bushels wheat; B, the Alliance store, makes a bid; A goes to C and requests a bid; C bids higher than B provided he will trade it out with him, and C has what A wants, so he sells him, and B is left because he could not see his way to offer as much as C. We are glad to see that others have taken the same view of the matter that we have. Why farmers will allow themselves to be duped by such men as are at the head of these affairs is a wonder, as most of them are men of a very good education and keep well posted with affairs of the day.

Price-Books.

We represent herewith two styles of price-books which we have received from Hardwaremen who are using them in their

account the cost of the goods is represented by a discount of 70½ per cent. Similarly on Shovels the buying price is discount 40 and 2, and 2 per cent. for cash, but the net cost in store becomes, in view of the expense of freight, 12½ per cent., 27½ per cent from list prices. In like manner our correspondents' memoranda in regard to Screws is as follows:

Screws.	
Co., Inv	10, 1, 89.
Dis., 50, 10 and 10 %.	
Fr't. all., 75c.	
Fr't., 8 % = 50 1-2 %.	

These price-books are mentioned not with a view of suggesting these forms for the adoption of the trade, but to advise them in regard to the methods used by other merchants, confident that these methods may more or less closely be adapted to the views and requirements of others. Inasmuch as this is a matter of very general interest we shall be glad to hear from any of our readers in regard to the price-books which they have in use,

ket, with whom freight is a comparatively trifling expense, omit it altogether from the cost of the goods. Those at a long distance from the market, on the other hand, with whom freight is a very considerable item, give it a place in their cost, thus permitting it to contribute a very considerable portion of the invoiced value of their stock. It is obvious that merchants in the far West must do this as the cost of freight to the more distant points is on many goods from 50 to 100 per cent. of the first cost of the goods. In taking account of stock the safer method is to underestimate rather than overestimate the value of the goods, but at the same time it is desirable that the inventory should be as nearly correct as possible, for the merchant is thus in a position year after year to determine more accurately the results of his business, an important matter when he is constantly on the lookout to discover the effect of the methods he has adopted, the result of the experiments he has made, the profitability of the new departures or ventures of

Diagram 1.—Price-Book, Reduced Size.

188		BELLS.							
Plantation.		Stock.		Sheep.		Hand and Tea.			
Discount.			Nos.	List.	Cost, net.	10 %.	20 %.	30 %.	Added.
4/89 pc & te	Stock.	Dodges.	No. 0	\$12.00	Leg				
del'd			No. 1	10.00	Epe				
			No. 1 1-2	9.00	Egl				
			Width of page 9¼ inches.						

business. For the first, which is represented in Diagram I, we are indebted to the Louis Hoffman Hardware Company, Vicksburg, Miss. The pages of this price-book are 9¼ inches wide, and it is therefore represented in reduced size, the proportions of the ruling being preserved. This price-book is intended for office use in recording the cost and selling prices of goods. It will be observed that provision is made for marking an advance of 10, 20 or 30 per cent. upon the cost, as may be desired. The book is made of tough, strong paper, and it is suggested that in use a soft pencil is best to allow of easily changing prices. In this book it will be seen that our correspondents follow the usual method of having the memoranda in regard to each article on one line. But in the price-book represented in Diagrams 2 and 3, for which we are indebted to Eaton & Cary, Leadville, Col., there is a suggestive departure from this practice, as under the name of the article memoranda are made indicating from whom purchased, at what discount, the freight allowance given and any other matters in regard to the cost. The manner in which the freight and the freight allowance are treated will doubtless be suggestive to many in the trade, as it is indicated what percentage of the cost of the goods the freight is, and also the discount which is to be taken from the list prices in order to represent the net cost of the goods including freight. It will thus be observed, while on Locks a discount of 75 and 10 per cent. was the purchasing price, that when the freight charges are taken into

and shall especially value suggestions in regard to any convenient and novel method.

Stock-Taking.

The time for taking the annual or semi-annual account of stock has passed with most of our readers, who are now in possession of figures by which they can judge of the profits of the year's or half-year's business. It is to be hoped that the exhibit is a satisfactory one. In the taking of stock it is to be presumed that very many different methods were followed, and the work was doubtless done with a varied degree of exactness. Some, it may be assumed, inventoried the goods at less than their actual market value laid down in the store, as they were priced at the figures at which they were purchased instead of the higher prices in many lines ruling at the opening of the year, while the value of the goods might also have been increased by adding the expenses—freight, cartage, &c.—of delivery, which many of our readers, on the other hand, doubtless consider as part of the cost of the goods, which would accordingly be recognized in the account of stock. In regard to this the distance of the merchant from the market where the goods were purchased has much to do with his practice, and probably most of the trade living near the mar-

one kind or another which have characterized his conduct of the business.

In order to have this information available the merchant must know, with at least approximate accuracy, the results of each year's business. The practice of different houses in various parts of the country in this matter is indicated in letters which have come to us with reference also to some related subjects of general interest. Thus, a Nevada house allude to the difficulty they experience in making an exact inventory, and the important place that freight holds as an element of the cost:

We will say that it is next thing to an impossibility for us to take an absolutely correct account in anything like a reasonable time. Our freight rates fully average us 5 cents per pound from the Eastern market and 3½ cents per pound from the Western market, which amounts to fully 80 per cent. of the first cost of the kind of stock we carry. Our method of taking stock is to put in shelf goods at cost mark. Iron, Steel, Nails, Horseshoes and heavy stock, Glass, Rope, Oils, &c., are put down at current rates with freight added. In addition to the above, we will state that whenever we note any marked difference in prices on the old stock we promptly change same to current rates.

A correspondent in Maine regards the matter quite differently, very much less pains being taken in securing exactness in

the account of stock, a matter with which their nearness to the market has much to do:

In regard to stock-taking we would say that we don't take the matter of freight into consideration. The freight is about the same proportion year by year. We price our goods at first cost. We compare the net result with the net result at last stock-taking, and let it go at that. It is not a very exact statement, but so far it has been good enough to satisfy us.

From a long established and well-known Mississippi house we have the following advices as to their method:

We in the South have to carry a larger and more assorted stock than in other sections, as we cannot replenish same at

given in the following letter from a house in Northern New York:

It is our custom to take account of stock January 1, or get it on paper as soon as possible after January 1. We begin the latter part of December with goods which are not selling, such as Haying Tools, &c., and get this class of goods all down before the end of the month. We are very careful to get all goods of a kind under one head, and preserve the record, as it is very convenient to refer to. In copying into the regular invoice-book we condense the whole stock into comparatively few items. In regard to prices, we intend to invoice our stock at what it would cost at the time we make the invoice. This we can do very easily on most goods, but, of course, there are many

ing, cartage and freight at actual figures, so far as may be, or where a large number of articles in one shipment make that practically impossible, by percentage. This represents the actual cost of the goods to me in store, which is entered in my price-book. The principal purpose of stock-taking I understand to be to ascertain the actual profit or loss of one's business. I see no other way to do this fairly but to invoice all goods at their actual net cost, determined as above, irrespective of any fluctuations of value that may have since taken place, for the market value is not only constantly changing, but is not always the same in two places at one time. The present advance may speedily become a decline. This alone represents the actual capital invested, and any other price must be wholly prospective

Diagram 2.—Price-Book, Actual Width of Page.

40							
Articles.	Size or number.	List.	Cost.	Whol'sale	Retail.	Weight.	Freight Rate.
Locks.	909	12 00	3 60	4 50	ea. 50	Per doz. 12 lb.	2.75
— Co., Inv., 10, 3, 89.	1101	14 00	4 29	5 25	“ 60	“ “ 14 lb.	“
Dis. 75 & 10 %.	1304	17 00	5 10	6 25	“ 70	“ “ 22 lb.	“
Frt. Al'wa'ce Mo. River, 50c.	702	18 00	5 40	7 00	“ 80	“ “ 40 lb.	“
Frt. 7 % = 70 1-2 %.							

short notice. We do not think there is a Hardware store in this section where two men taking the same stock would value it at the same in dollars and cents. Goods should be valued at their market price at the time of taking stock, and that price should agree on staples such as Nails, Barb Wire, Shot and other goods of such a nature (which are usually sold now delivered) actual freight is added, but on an assorted stock of shelf goods it is very hard to value accurately owing to goods being constantly received and new in-

items of miscellaneous Shelf Hardware which we put in at cost, and we find the reductions and advances about equal. In regard to freights, we believe it is the general custom in this section to buy many heavy goods delivered. On all such goods when the freight is quite a heavy item we invoice at cost delivered, but on miscellaneous Shelf Hardware we invoice at net cost in market and call the freight an expense of doing business. Of course we keep an account of all expenses and make an average from year to year what it costs

until the goods are actually sold, which act creates a new valuation and determines, less expenses, the gain or loss on the investment.

From North Carolina we have the following advices, in which our correspondents refer to the proportion freight bears to the first cost of the goods:

The subject is one that has bothered the writer. We are so near the market that we can get goods in five days, hence do

Diagram 3.—Actual Width of Page.

60							
Shovels.							
Chis. D. Hdle. Sq. Pt	4 1/2 (6)	18 00	11 00	15 00	1 50	72 lb.	2.55
“ “ “ “	4 5 (8)	20 90	12 00	16 00	1 60	78 lb.	“
40 and 2 and 2 % cash.							
Freight 12 1-2 % = 27 1-2 %.							
6 % end of season.							

ventions appearing, making some goods unsaleable. In carrying on business for 29 years individually we took stock at invoice prices, no freight added, which resulted in our business showing more actual worth than our books called for. This allowed us to go safer and be in better condition. Having converted the business into a stock company we find that the best average to add (excluding staples) would be 5 per cent. to cover expense of getting goods in store.

A more detailed account of stock-taking and of other matters connected with the bookkeeping of their business is

to do business, and then we know if we sell goods below a certain percentage of profit we are doing business at a loss. We think this a more satisfactory way than to attempt to add the freight to each article, although we can see that this must be necessary when a long way from market and freights are a very large item.

A correspondent in Minnesota thus describes his method of pricing goods when received, with a special reference to stock-taking:

On receipt I ascertain the net cost as per bill; to this I add all charges for box-

not have to carry so large a stock as they do upon the Pacific Slope. In taking stock we have usually taken at cost price, except when there was a very decided difference in price of goods, when we get as near as possible. While we have some goods that cost as much as 33 per cent. for freight, still the general average for the year will only make 10 per cent. We have watched this carefully and find at close of the year that amount paid for freight and drayage on goods coming in is 10 per cent. on invoice. We should like to see a solution of this problem and shall watch your paper for it.



### Syndicate Buying for Retailers.

For a number of years syndicate buying has been a marked feature of the Hardware business and many goods are purchased by parties who represent a number of Hardware houses. These houses are for the most part wholesale merchants, though in not a few instances retailers have been thus represented. It has not, however, been found feasible, although the attempt has several times been made, to organize a syndicate of small houses, although to such houses a plausible presentation can be made as to the inducements in price which such a system offers. But experience has shown that the representation of retailers by syndicate buyers involves so much detail and annoyance that it has not often been successfully and satisfactorily done. The attempt, however, to establish a business on this basis is made from time to time. The manner in which it is to be accomplished is illustrated in the following circular, which represents one of the latest efforts in this direction. Explaining their method of doing business the agency issues the following advices:

Our system is operated as follows: We will notify each correspondent of our intention of making a deal for a certain article or line of goods, asking him how many he can use if price is right. We will then lump the requirements of all our correspondents and make a deal with the manufacturers for that quantity of goods. Then we will advise each correspondent the price obtained, and if he thinks the price correct he can send us his order, which we will place and have the goods shipped and charged direct. Orders of the size which we will handle will be sought for and will secure extreme or special prices.

On small orders for general merchandise we will endeavor to obtain a quiet 5 or 10 per cent., which will be credited to the buyer by us and remitted when received. A credit memorandum will be mailed to the firm on the day of shipment of such orders as these.

Our confidential sheet will contain any special prices we may pick up and any special lots or jobs we may hear of. We will endeavor to send one of these each week, oftener if obtainable.

We will charge no goods. The only accounts we will keep will be the credit memorandums and private accounts, and we will buy no goods without written orders to do so. Also, we will buy for no house that is devoid of financial standing.

We will consider ourselves the representatives of each firm, individually, and will attend to any business correspondence that may be entrusted to us, ascertaining any points regarding freight, allowances, quality of goods, &c.

Our charges are \$150 per year, payable quarterly, and, as we will accept but one correspondent in each town, we hope you will advise us your determination promptly, which we assure you will receive our immediate attention.

### Exports.

PER SCHOONER CLIFTON, JANUARY 20, 1890, FOR PORT NATAL, SOUTH AFRICA.

By Corner Bros. & Co.—4 Hand Carts.  
By H. W. Peabody & Co.—6375 pounds Barb Wire, 3 Corn Shellers.

By R. W. Forbes & Son.—50 dozen Axes, 500 pounds Butts.

By Coombs, Crosby & Eddy.—26 dozen Hatchets, 22 dozen Hardware, 4 dozen Bench Screws, 6 Corn Shellers, 18 Ladders, 2 Pumps, 6 Bellows, 12 dozen Washboards, 104 Plows, 40 Plows, 1 dozen sets Sash Irons, 50 dozen Edge Tools.

By W. H. Crossman & Bro.—618 Plows and extras, 2½ dozen Sausage Stuffers, 17 dozen Meat Cutters, 1½ dozen Sausage Stuffers, 112 dozen Handles, 240 dozen Hardware, 3 dozen Washing Machines, 6 dozen Ladders, ½ dozen Lawn Mowers, 6000 pounds Nails, 1400 pounds Sash Weights, 1 bale Sash Cord, 2 Meat Choppers, 3 Freezers, ¾ dozen Hand Carts, 638 dozen Hardware, 9 cases Hardware, 6 dozen Scales, 24 dozen Tools, 100 gross Shears, 5 dozen Perambulators, 6 dozen Ladders, 4 dozen Oil Stones, ½ dozen Hand

Carts, 24 Plows, 7 dozen Hardware, 3 dozen Oil Stones.

PER BARK SOUTHERN CROSS, FEBRUARY 8, 1890, FOR ADELAIDE, AUSTRALIA.

By Edward Miller & Co.—25 packages Lamp Goods.

By H. Disston & Sons.—1653 pounds Hardware.

By Lalanc & Grosjean Mfg. Company.—5257 pounds Household Utensils.

By Winchester Repeating Arms Company.—6 Guns.

By Fairbanks & Co.—4909 pounds Scales.

By Welsh & Lea.—3 cases Iron Bolts.

By Healy & Earl.—4 boxes Forges, 1 box Drills.

By Russell & Erwin Mfg Company.—9 packages Hardware.

By J. B. Morrell & Co.—1012 pounds Manila Rope.

By J. A. Gifford.—4 cases Hardware, 1 bundle Whips, 14 cases Carriage Hardware.

By H. W. Peabody & Co.—7 cases Hardware, 4 Ranges, 10 dozen Wringers, 30 dozen Handles, 500 Handles, 581 packages Hardware, 1200 Cartridges, 1 case Stencils, 41 packages Lampware, 7 reams Flint Paper, 44,883 pounds Barb Wire, 3 cases Traps, 50 rolls Wire Cloth, 21 cases Agate Tinware, 14 packages Pumps, 62 dozen Washboards, 3 cases Lemon Squeezers, 1 case Stamped Ware, ½ dozen Air Guns, 504 pounds Nails, 6 dozen Lawn Sprinklers, 30 dozen Wringers, 18 cases Grindstone Fittings, 1568 pounds Packing, 9 coils Rubber Hose, 11 Chucks, 23 Lawn Mowers, 12 Money Drawers, 6 Paint Mills, 9600 feet Link Belting, 66 Barrows, 29 gross Pencils, ½ dozen Edge Tools, 15 packages Coffee Mills, &c., 1 case Hardware, 47 packages Hardware, 4 Fire Arms, 253 cases Handles, 1 case Pumps, 3 cases Axle Sets, 33,630 pounds Barb Wire, 1 case Plated Ware, 4 Taps and Dies, 1 set Drills, 1 bundle Taps, 74 packages Hardware, 5 crates Ranges, 600 feet Hose, 1½ dozen Money Drawers, 10 dozen Handles, 8 Paint Mills, 6 dozen Coffee Mills, 214 pounds Stone, 3 packages Stoves.

By R. W. Forbes & Son.—½ dozen Wringer Cranks, 957 pounds Axle Grease, 2 gross Axle Grease, 5 packages Hardware, 172 pounds Tacks, 17 sets Wheels.

By McLean Bros. & Rigg.—1 dozen Wrenches, 36 dozen Glue, 36 dozen Lead Pencils, 30 dozen Axle Grease.

By Strong & Trowbridge.—40 dozen Axes, 20 dozen Axle Grease, 1 dozen Tools, 60 dozen Handles.

By Maillet & Quereau.—1 case Forks.

By R. W. Cameron & Co.—228 dozen Axe Handles.

By Arkell & Douglas.—20 dozen Locks, 11,400 pounds Barb Wire, ½ gross Axle Grease, 2 dozen Hoes, 7 dozen Saws, 3 dozen Snaths, 3 dozen Forks, 30 dozen Forks, 42 crates Stove Parts, 216 dozen Axe Handles, 1000 pounds Nails, 1 gross Axle Grease, ½ dozen Ice-Cream Freezers.

PER BARK ALICE, FEBRUARY 11, 1890, FOR DUNEDIN, NEW ZEALAND.

By Arnold, Cheney & Co.—3 cases Hardware.  
By W. H. Crossman & Bro.—2 cases Hardware.

By Arkell & Douglas.—10 dozen Washboards, 3 dozen Braces, ¾ dozen Fifth Wheels, 5 sets Axes, 1915 pounds Horse Nails, 12 dozen Castings, 34 Stoves, 2½ dozen Churns, 2½ dozen Stencils, ½ dozen Seed Sowers, 257 pounds Tacks, 30 gross Wicks, 2 dozen Lampware, 500 pounds Tacks.

By A. S. Lascelles & Co.—4 dozen Racks, 1 case Files, 1 dozen Tobacco Cutters, 15 packages Lampware.

By R. W. Forbes & Son.—8 packages Hardware, 12 dozen Pick Handles, 10 gross Rules, 13 packages Hardware, 132 dozen Axe Handles, 1 case Horse Hoes, 40 dozen Rake Handles.

By H. W. Peabody & Co.—6 Plows, 4 dozen Wicks, 4 cases Lampware, 7 packages Hardware, 16 packages Carriage Hardware, 24 dozen Handles, 3½ dozen Wringers, 3 packages Hardware, 6 cases Iron Castings, 10 packages Hardware, 9 dozen Spades, 850 pounds Bolts, 2 dozen Wringers, 100 pounds Nails, 51 cases Edge Tools, 2 dozen Car Wheels, 1 case Lampware, 11,200 pounds Barb Wire, 43 packages Lampware, 5 dozen Brushes, 1 case Silverware, 100 gross Paper Caps, 336 pounds Nails, 1 case Hardware, 3 cases Axle Springs, 63 cases Hardware, 88 dozen Handles, 4 dozen Spades, 4 sets Axes, 9 packages Lampware, 22,400 pounds Barb Wire, 20 dozen Hay Rakes, 14 packages Carriage Hardware, 18 dozen Handles, 1 dozen Wringers, 400 pounds Nails, 4 cases Bolts.

By Edward Miller & Co.—32 packages Lampware.  
By Samuel Lees & Co.—2 cases Wood-working Machinery.

By Itley, Doubleday & Co.—144 dozen Axe Handles.

By W. K. Freeman.—7 packages Lamp Goods.

By Dunbar, Hobart & Co.—4760 pounds Nails, 18 pounds Shoe Tools.

By F. B. Wheeler & Co.—2 cases Hardware, 36 Pumps, 1 package Hardware.

By Chas. Brewer & Co.—9 packages Lampware, 3 cases Hardware, 175 bundles Carriage Hardware.

By Strong & Trowbridge.—50 boxes Horse-Shoe Nails, 4 dozen Hammers, 1 dozen Axes, 50 dozen Handles, 1 Blower, 9 dozen Choppers, 7 dozen Locks, 25 dozen Illuminators, 150 dozen Handles, 35 pounds Hardware, 25 dozen Axes, 9 dozen Hammers, 11 dozen Axes, ½ dozen Bits, 1 dozen Wringers, 100 pounds Stone, 20 dozen Forks, ½ gross Egg Beaters, 5 dozen Manure Forks, 3 dozen Hay Knives, 9 Stoves, 1 box Stove Parts, 8 dozen Pulley Blocks, ½ dozen Hoes, 1 dozen Fifth Wheels, 6 dozen Knobs, 500 pounds Nails, 2 dozen Handles, 6 dozen Handles, 3 dozen Pulley Blocks, 3 Stoves, 4¼ dozen Hatchets.

### FOR AUCKLAND.

By Morris, Strouse & Co.—14 gross Hardware.

By W. H. Crossman & Bro.—2 cases Hardware.

By Arkell & Douglass.—6 dozen Hammers, 6 dozen Axes.

By A. S. Lascelles & Co.—50 dozen Washboards.

By R. W. Forbes & Son.—112 pounds Carriage Bolts, 4 cases Tools, 25 dozen Rake Handles, 9 packages Ox Bows, 13 packages Churns, 6 dozen Mattocks, 6 dozen Bush Hooks, 11 packages Hoes, 2 packages Kitchenware, 1 box Hog Rings, 5 dozen Spade Handles, 1 box Plated Ware, 3 boxes Miter Boxes, 1 box Forks, 24 dozen Traps, 2 boxes Drills, 2 boxes Plated Ware, 10 gross Rules, 5 cases Corn Shellers, 68 packages Hardware, 2 cases Bird Cages, 7 packages Churns, 2 packages Butter Workers.

By H. W. Peabody & Co.—14 sets Axes, 48 packages Hardware, 5 packages Lampware, 33 Plows, 8 dozen Broilers, 1 dozen Hay Knives, 15 sets Axes, 100 pounds Nails, 5 crates Fiber Goods, 2 dozen Washers, 2 gross Glass Cutters, 9 Corn Planters, 2 cases Axes, 9 Scales, 3 dozen Corn Shellers.

By Meriden Britannia Company.—3 boxes Plated Ware.

### FOR TAMANGA.

By A. S. Lascelles & Co.—1 case Handles, 5 dozen Washboards, 8 Shellers, ½ dozen Wringers, 4 dozen Axes, 1 dozen Hoes.

### FOR LYTTLETON.

By A. Field & Co.—2 cases Carriage Hardware, 7 dozen Whips, 3 dozen Harnessware.

### FOR NAPIER.

By A. Field & Co.—50 dozen Whips, 200 pounds Hardware.

### FOR WELLINGTON.

By McLean Bros. & Rigg.—6 Step Ladders.

By A. Field & Co.—2 dozen Wringers, 65 dozen Whips, 6 dozen Harnessware, 19 Stoves and parts, 2 Furnaces.

### FOR DUNEDIN AND AUCKLAND.

By R. W. Cameron & Co.—1 case Hardware, 12 dozen Saws, 6 dozen Handles, 6 cases Hardware, 1 case Oil Stones, 12 rolls Sandpaper, 5 dozen Hammers, 8 dozen Saws, 13 Stoves and 1 box Stove parts, 3 crates Hardware, 4 cases Hardware, 3 cases Wringers, 9 dozen Axes and Hatchets, 4 dozen Hammers, 4 cases Sash Irons, 115 pounds Meat Choppers, 3 dozen Sash Cord, 1 case Oil Stove.

The Buffalo Patent Axle and Wheel Company have established and now occupy new works near the Main street station of the N. Y. Central Belt Line R. R. The officers of the company are George L. Thorn, president; D. F. Walbridge and B. P. Angell, vice-presidents; J. H. Hale, secretary; George Rice, treasurer. The building is a four-story brick having a frontage of 70 feet and a depth of 170 feet. This company are located on the ground floor, the railroad side of the building—other parts of the building by other occupants—for offices and salesroom, and shops and forges, for the manufacture of specialties in, and a general line of Half Patent and Common axles, including the Self-Lubricator, Improved machinery, and all the requisites of a well arranged plant are employed at the works of this company.

M. M. Buck & Co., St. Louis, Mo., offer for sale a malleable and gray iron foundry outfit, including patterns, flasks, electrotypes, &c., for carriage and general hardware, brass works, &c. There are over 5000 patterns and the outfit is in first class condition.

## REVIEW OF THE WHOLESALE MARKET IN PAINTS AND OILS.

*It should be understood that the prices quoted in this column are strictly those current in the wholesale market, and that higher prices are paid for retail lots. The quality of goods frequently necessitates a considerable range of prices.*

### Paints and Colors.

Business has been very fair in the general line of pigments, colors and kindred goods. Jobbers express satisfaction with the distribution, the majority stating that their sales are running somewhat ahead of the average for the season, and manufacturers appear to be without cause for complaint. City and near-by customers have been the best buyers, the mild weather doubtless facilitating building operations and other outdoor work to a considerable extent. In prices there have been few and only unimportant changes, and the general tone is cheerful. All indications favor anticipations of a brisk spring trade in the more staple lines of goods.

**White Lead, &c.**—Pure White Lead remains firm. Corrodors in general adhere to the trust prices, and jobbers are doing the same. The dry product is moving quite freely, and the distribution of pure Lead in Oil is represented as being fully up to the average for the season. Second and third qualities, otherwise Lead containing more or less Zinc and inferior substances, are, however, in relatively better demand. Jobbers state that orders for these lower grades are coming in more freely than ever before at this season of the year, and that the best of them are being used in the place of the pure article by many large painters. An article containing a small percentage of Zinc sells at 6¢ @ 6½¢, against 7½¢, the net price for pure Lead, and for many uses it is claimed house painters assert that it is fully as good as, if not more desirable than, the pure article. At the difference in price it is said to be preferable for the more common class of work. These mixed Leads range all the way from the prices mentioned down to 4½¢, according to the quantity of inferior substances employed, but the 4½¢ article is not given much of a recommendation for outside work. Manufacturers of pure Lead profess to be indifferent to the increased use of the inferior article, and even assert that they fail to discover wherein the sale of their productions has been affected.

Red Lead and Litharge have been selling in about the usual way, and prices remain as before, with the market quite firm.

**Zincs.**—Manufacturers and agents state that the movement of American Oxide is of satisfactory volume and freer than that experienced during February last year. Jobbers report a very steady demand also. In foreign there is the average business passing. Prices for all descriptions remain the same as quoted for some time past.

**Colors.**—In the general line of house-painters' Colors there continues to be a very fair business and the movement of grinders' Colors runs along in about the usual way, with prices generally steady. Paris Green and other "insecticides" are momentarily slow of movement and without quotable change as to prices.

**Ready-Mixed Paints** have had freer sale this week than last and prices for some descriptions have been advanced, owing chiefly to the high cost of Linseed Oil. Reputable goods in this line are selling at prices very close to actual cost.

**Miscellaneous.**—Block Chalk from store is firmly held, being in only fair supply. Whiting has undergone little change and Paris White keeps steady at old rates. The movement of these goods is fair.

### Animal and Vegetable Oils.

Changes in the market for Animal and Vegetable Oils have been few and of unimportant character. No new conditions have arisen calculated to stimulate buyers into more extensive purchases than their operations have been confined to previously this month nor to sway values a great deal. The general tone, as a matter of fact, is remarkably steady and the surrounding influences point to a continuation of the same rather than to any immediate radical changes. The amount of goods passing into the channels of consumption compares favorably with what is customary at this period of the year, the export movement is very fair, inferior greases show but slight fluctuation and raw materials in general are quite steady.

**Linseed Oil.**—No further change in prices for city-made Oil has taken place, and out-of-town brands are quoted the same as last week. The demand has continued very steady, taking up a good percentage of the current local production and receipts from other quarters, and the cost of seed not only remains high, but shows an upward tendency that makes a further advance on Oil before long look very probable.

**Cotton-Seed Oils.**—Purchases have again been fairly liberal of crude Oil for home account, and of refined for both home consumption and export. Supplies are still found fully adequate for all requirements, however, and prices remain almost stationary. Nearly all the transactions have been at 28¢ for prime crude and 34¢ for prime summer yellow.

**Lard Oil.**—Some few round lots of out-of-town make of prime Oil have been sold latterly at 50¢, but none is offering now at less than 52¢, while the most popular city brands are held at 52½¢ @ 53¢. The movement during the week has been good, and there is a very fair demand at the present time.

**Olive Oil.**—Italian Yellow in barrels is very firmly held at 87½¢ @ 90¢, according to size of lot, the supply being under close control. High cost, however, tends to restrict business more or less.

**Sperm Oil.**—Crude remains as quoted last week and is in limited demand. The manufactured products have been moving very fairly in a jobbing way, but at slightly reduced prices.

**Menhaden Oils.**—Fair purchases of Crude have been made for home account. There is yet some export inquiry, but scarcity of room and high cost of freight checks business somewhat. Prices are steady for both Crude and manufactured products.

**Cocoonut Oils.**—Supplies have been quite large and prices have ruled rather weaker, particularly for Cochin, of which sales at 6¢ have been made.

**Tallow Oil.**—Prices are off to 46¢ for City double-pressed and business is moderate at the decline.

**Red Oils.**—Western Saponified has been sold on the basis of 4¢ @ 4½¢ per lb, which is below the general quotation.

### PROVIDENCE NOTES.

There is to be launched from the yards of the Herreshoff Mfg. Company, in Bristol, in a few days a beautiful steam yacht named Judy. This yacht was built to order of Frank T. Howard, of New Orleans. She is 102 feet long over all, 85 feet on the water line, 11½ feet beam, 9½ feet in depth. Her draft of water will be about 4 feet 9 inches, and she was built specially for the shallow waters of the Gulf of Mexico. The Judy is fitted with a triple-expansion engine and calls for a speed of at least 16 miles an hour. The

saloon, stateroom, pantry, toilet-room, &c., are all finished in solid mahogany. There is nothing above deck except the pilot-house, and an awning will cover the entire deck, thus giving the occupants of the yacht a cool place to dine and sleep during the summer months.

The Brown & Sharpe Mfg. Company make a vertical spindle milling machine in which the usual knee moving up and down on the face of a column is dispensed with and the platen is placed on top of a very broad and substantial base, to which it is gibbed solidly, resting upon ample flat surfaces. The vertical adjustment of the spindle is made in the column, which is very massive, amply sufficient to prevent all vibration and springing. Besides the vertical movement of the column there is a finer vertical adjustment for the spindle by means of a collar nut, which is graduated in thousandths of an inch. All movements of the machine, either by hand or the automatic feeds, are controlled from the front of the machine, the feeds working in either direction and being automatically thrown out at any desired point. The platen is 36 inches long, 12 inches wide, provided with T slots for holding the work, and its movement either by hand or automatically is 36 inches longitudinally and 12 inches transversely. The end of the spindle when at its lowest point is 1½ inches from the platen, and at highest 15 inches. It has three belt and three gear speeds, which, with two speeds in the center shaft, give a total of 12 different speeds. There are eight changes of feed for each speed of spindle. A circular milling attachment is furnished if desired, which is 18 inches diameter and has automatic feed in either direction. For surfacing in this machine inserted tooth mills up to 8 inches diameter are used by the builders.

John A. Bartlett retired Saturday night from the position of general manager of the Union Railroad Company, and on Monday left the city for New York, preparatory to sailing in the steamship City of Paris Wednesday for Europe. He will be accompanied by his family, and will remain away until next June, at which time he is to go into active service in the United States Navy, resuming the duties of commander, from which he has been on leave of absence since he became general manager of the horse railroad system in June, 1888. The successor of Mr. Bartlett as general manager is Albert T. Potter, who has for a number of years been the superintendent of the system.

William T. Nicholson, Jr., son of W. T. Nicholson, of the Nicholson File Works, died last Tuesday of typhoid fever. He was an aide-de-camp on the Governor's staff, with the title of Colonel. He was born August 22, 1864.

The Campbell Sewing Machine Company, of Pawtucket, recently shipped an order which they have reason to be proud of. It consisted of six of their machines manufactured expressly for parties in England.

A carload of machinery was shipped a day or two ago to the Wetmore Mills, Fall River, from Potter & Atherton's machine shop.

The Phenix Electric Light and Coal Company have purchased and set going a new dynamo to take the place of the old one that is now not large enough to run the incandescents. The new machine is expected to furnish electricity for 1500 lights.

The Builders' Iron Foundry cast another big gun for the Government this week.

Something like a contract has just been received by the Thomson-Houston Electric Company. It is to equip 100 motor cars and 60 locomotives for the St. Paul and Minneapolis street railways. The cost will be over \$2,000,000. LEONIDAS.

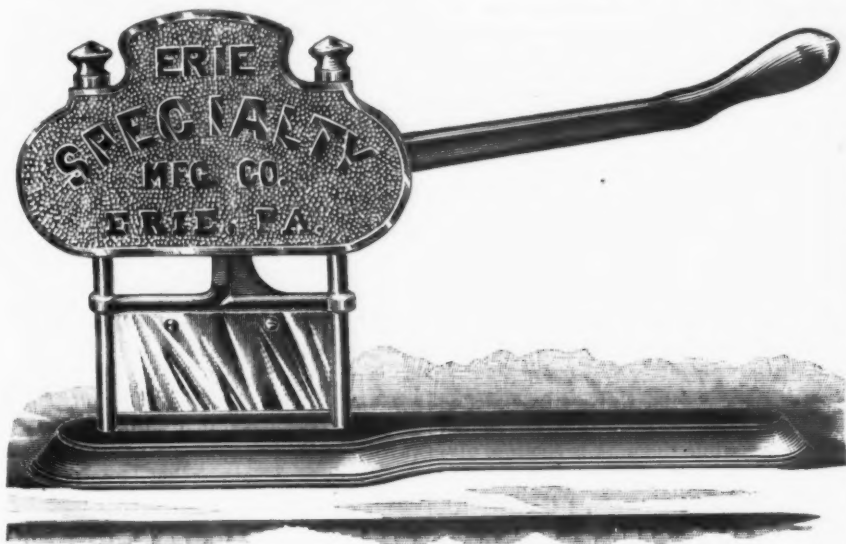


**Walker's Improved Tobacco Cutter.**

The Erie Specialty Mfg. Company, Erie, Pa., are putting on the market a new design of tobacco cutter, a description of which appeared in our last issue in connection with an illustration of their new cigar cutter instead of that shown here-

and it is very simple in operation. Turning the crank shown in the cut forces the screw into the cork, lifts the latter out and frees it from the screw, permitting it to fall out of the way. If there be any wires confining the cork it is not necessary to cut them before inserting the neck of the bottle in the extractor. They are

machines also have side adjustment for shifting the handles. This enables the handles to be set over on either side much or little, as desired, a construction which is referred to as often of much service, as in close cultivation the handles are liable to injure tall growing crops, while in covering corn, potatoes or in making plant ridges, &c., it is convenient for the operator to be able to walk without strain on one side of the finished work, instead of straddling it. These improvements, which are alluded to as greater than the combined improvements of the past three years in this class of goods, are referred to as adding greatly to the ease and adjustment of the tools, while they also increase their strength at one of the most critical points. The circular of the manufacturers gives further information in regard to the construction and especially the patented features of these machines, and, besides the illustrations given herewith, represents the Planet, Jr., with a variety of attachments, including the following: Furrowing and marking attachment, roller covering attachment, rake covering at-

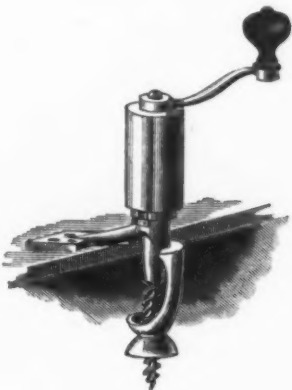


*Walker's Improved Tobacco Cutter.*

with. The knife-supporting frame in the tobacco cutter has three bearings in the proper position to prevent binding, while the ends of the knife work in grooves cut in the rods, permitting the knife to slide up and down and preventing it from springing sidewise. Particular attention is directed to the ease with which the knife may be cleaned, the peculiar construction making it unnecessary to remove it from the machine. The simplicity and strength and easy operation of this machine are referred to by the manufacturers. Attention is also called to the advertising plate shown, which can be made to suit any requisite design.

**The Edie Cork Extractor.**

The cork extractor represented in the accompanying illustration is the invention of Alexander Edie, Bridgeport, Conn., and was patented February 4 last. Its sale is controlled by the inventor and James A. Murray of Butte City, Montana, for whom it is manufactured by the Smith



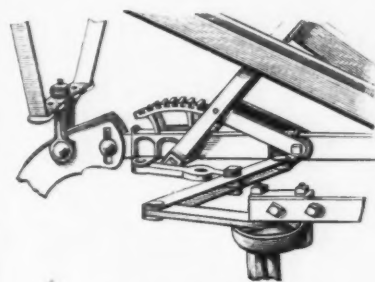
*The Edie Cork Extractor.*

& Egge Mfg. Company, Bridgeport. The screw in the extractor is described as made of solid steel worked out in shape by tools designed for this special purpose. There are no levers in the construction,

referred to as broken when the cork is extracted by the action of the screw. It will thus be perceived that the extraction of the cork is easily and quickly accomplished. The extractor is referred to as symmetrical and ornamental in design and finish, and is polished and nickel-plated.

**The Planet, Jr., Horse Hoe.**

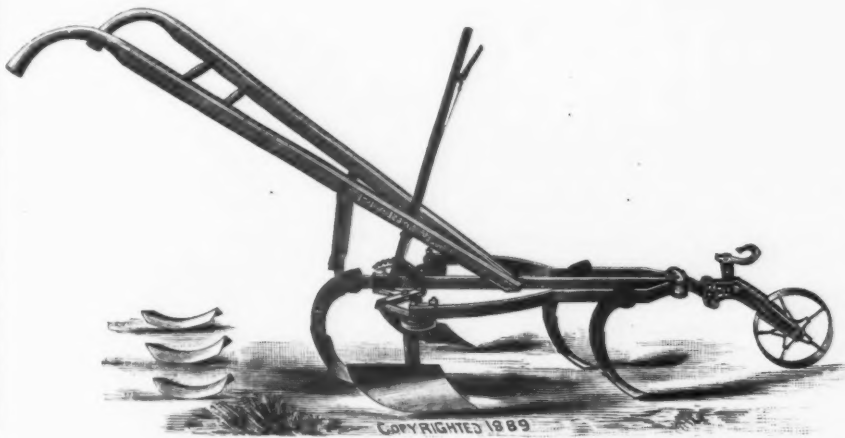
This machine, which is manufactured by S. L. Allen & Co., 1107 Market street, Philadelphia, is represented in the accompanying illustrations with the important improvements which have been made in it for the present year. Fig. 1 giving a general view of it and Fig. 2 a detailed view



*Fig. 2.—Patent-Lever Expanders.*

tachment, sweeps for shallow level cultivation and bind turner attachment, while it is also shown as a plain cultivator and reversed for hoeing.

Two walking delegates of the Carpenters' Union were arrested on Friday in a suit commenced by Morton & Chesley, contracting carpenters, of Boston, who are finishing buildings in Wall street, this



*Fig. 1.—Planet, Jr., Horse Hoe.*

of the new patent lever expander. The frame has been arranged so as to open and close in an instant by means of this expander. This is operated by a single lever and enables the operator to change the width from wide to narrow or a few inches, as desired, at a single movement of the lever. One side also may be opened much wider than the other. The whole arrangement is described as neat, strong, simple and effective, rendering the machine especially adapted to the use of farmers, large gardeners, &c. The new

city, and allege that their property has been damaged by each of the defendants to the extent of \$500. The affidavits were made by several carpenters, who swore that they were ordered to strike against their will and did so from fear of punishment. They were working for \$3.25 a day, or 25 cents below the union's scale. In retaliation the Building Trades Council at a special meeting at once ordered out all the men at work on buildings in various parts of the city on which the Boston contractors are engaged.

### The Delaware County Creamery.

The accompanying cuts illustrate a new article which is now being placed upon the market by Hibbard, Spencer, Bartlett & Co., of Chicago, who are sole agents for

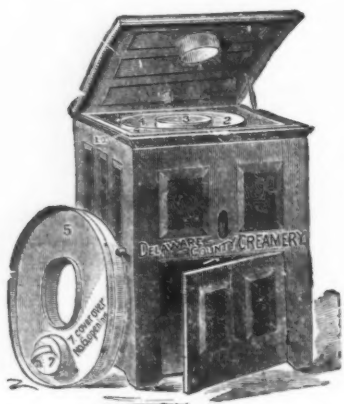
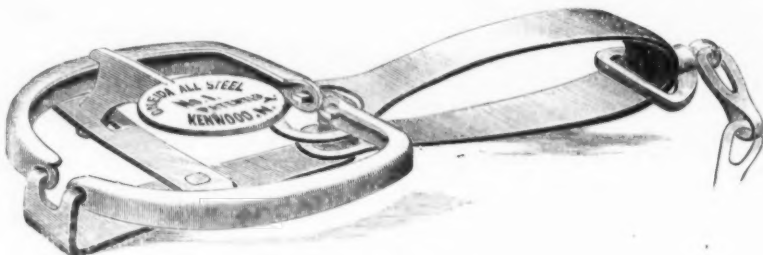


Fig. 1.—Delaware County Creamery.—Perspective View.

the manufacturers. Fig. 1 shows a perspective view of the Delaware County Creamery, while Fig. 2 is a sectional view, showing the creamery cut through the center vertically. The creamery is intended to expedite the cooling of milk, so that

holding the milk, and is permitted to flow until it completely fills up the space on the sides and the space in the center of the vat. To prevent water from rising up and running into the milk in the vat a waste-pipe or water outlet is constructed on the side of the water reservoir, which never allows water to rise further than within 1 inch of the top of the vat. As will be seen by the sectional engraving, the vat is com-

pletely surrounded by water when the reservoir is filled, except the cover, which is left open while the milk is cooling, giving it ventilation. When the milk is cooled the little cover is put over the opening, which thus completely seals the milk, as the flanges around the vat-cover extend upward for holding water and down into the water around the vat both inside and outside. The milk is drawn



Oneida All-Steel Trap.

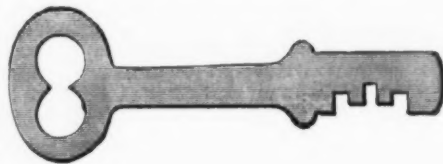
ture to raise all the cream between milkings. It is claimed that with a creamery of this kind 10 cows can be made more profitable to a farmer than 15 cows without it.

### Oneida All-Steel Trap.

Oneida Community, Kenwood, N. Y., are manufacturing the trap shown in the cut herewith given, which indicates its construction. The chief feature of this trap, to which the manufacturers direct attention, is that it is made wholly of steel, with no malleable castings whatever. The jaws, which are made of mild steel, are crimped so as to present a broad gripping surface, and this form, it is stated, is found to give the trap great stiffness and strength. The manner of fastening the jaws to the bottom piece is also referred to. The swivel in the trap is made from sheet steel. The lightness of this trap and the low price at which it is offered are points also made in regard to it.

### Brittan, Graham & Mathes' New Flat Key Latch.

Brittan, Graham & Mathes, Pittsburgh, Pa., are manufacturing in connection with their other goods a number of articles that are new in the builders' hardware line, and among these is a flat steel key latch which is designed for store, office and ves-



New Flat Key Latch.

tibule doors. The special feature of this latch is indicated in the name, which emphasizes the fact that it has a flat steel key, this key being illustrated in the accompanying cut. Heretofore latches of this kind have been made with what is known as a bit key. The manufacturers also make a lock for front door to match this latch and the same key passes both latch and lock. The convenience of this key for carrying in the pocket and its beauty are referred to. The latch to which it is applied can be furnished plain or in ornamental designs, and is also made with flat and rabbeted fronts, the inside works being of steel.

A Philadelphia paper says there have been 50 failures of woolen manufacturers and mills in that city within a year.

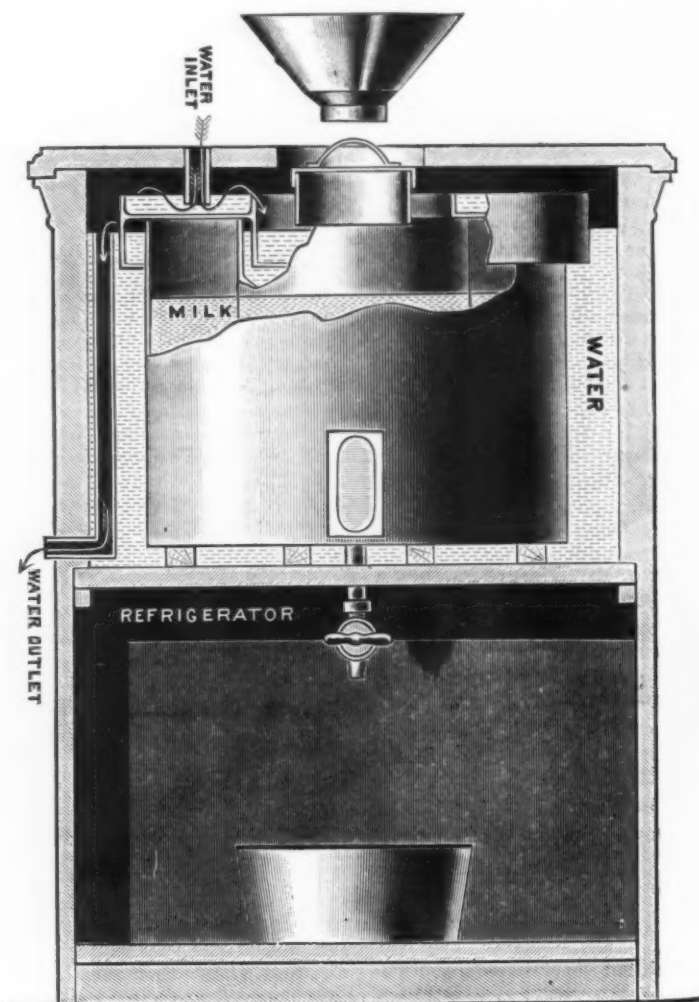


Fig. 2.—Sectional View.

cream will be raised more quickly than if the milk is allowed to simply rest in the pails in the usual way. This creamery is made with a vat in the center, which is circular in form, having an opening up through the middle to hasten the cooling of the milk. A stream of water flows through the creamery, surrounding the vat

from the faucet in the refrigerator, as is also the cream, a glass showing the separation. Water to fill the reservoir can be conveyed from a windmill or spring, or can be pumped in if no running water is handy. In the latter case the water needs to be changed in hot weather once or twice a day. It is only necessary to have



## A Heavy Export Machinery Contract.

A conference of great importance was held at the Grand Pacific Hotel, Chicago, on the 14th inst., between two Chinese and two representatives of the mining machinery firm of Fraser & Chalmers. The result was that negotiations were formally entered into looking to the construction of a 300-stamp mill in the mountains of China. The magnitude of the operation may be understood when it is stated that the mill, with all its machinery and appointments, will cost not far from \$4,000,000. This sum will include all preliminary expenses, such as transportation of machinery, erection of buildings, and the importation of the skilled laborers and machinists needed.

It had not been known that there was enough gold-bearing rock in China to pay for the erection of a stamp mill of any size. The Chinamen say that there have been discovered in the very heart of China remarkable gold-bearing leads. That there was a little gold to be found in the Tai-Shan Mountains, in the province of Shan-Tung, has been known to the Chinese perhaps since the days of Confucius. But they did not know how to handle it, while now they know all about the methods of gold production. Chinamen rushed to California during the gold excitement, and a few years later rushed to Australia. They returned to their homes with money and knowledge of mining methods. About two years ago some Chinese prospectors entered the Tai-Shan Mountains determined to find gold-bearing quartz if it existed in the country. Before the first week of their search was ended they found significant outcroppings. A little later they discovered the great lead which is now to be worked. One of these men was Leng Chen, a man who had had considerable experience in mining and prospecting in California, and who saw the wisdom in silence. They kept very still about the find until a company had been formed and a clear title to a large tract of land secured. Some crude stamp mills were erected and the crushing and reduction of quartz was commenced.

From the outset the production of gold was enormous, and it is stated that not 1 ton of ore has been treated that has yielded less than \$700. In particular cases the ore has yielded as much as \$10,000 to the ton. The news of the lucky mining venture spread rapidly in China, but for some reason has been kept from the world. The rest of the country about the mines was bought up by opposition companies and other crude mills were erected. The poorer Chinamen gathered in large numbers and commenced cradling the sands in the streams, and were often able to get a good deal of gold. The mining companies were consolidated into two companies. The stock of one company is held in Shanghai and the stock of the other in Peking. Five months ago the two great companies formed a trust, controlling about 80 miles of land in the gold country, and sent Chu Ling Kwan and Tong Sing Kou to this country to make the preliminary arrangements for the purchase of the necessary machinery to commence operations on a modern and gigantic scale.

The Gilbert & Baker Mfg. Company, of Springfield, Mass., have assumed the general agency for the manufacture and sale of the Fuel Oil Burners of the Aerated Fuel Company for the whole United States. While continuing the erection of their Springfield Gas Machines, producing fuel gas for use in such of the lighter processes in the mechanical arts as it is specially adapted to, such as canning, soldering, laboratory, jewelry, laundry and similar light work, they are prepared to erect plants complete for the use of crude

petroleum and heavy oils of all kinds as fuel for welding, tempering, annealing, brazing, forging, melting of metals and glass, &c.

## PERSONAL.

H. C. Wicker, late traffic manager of the Chicago and Northwestern Railway Company, has returned to Chicago after a three months' trip in Europe. While abroad he entered into an engagement with the Harney Peak Tin Mining, Milling and Mfg. Company to take charge of that company's mines in the Black Hills, and will make his headquarters at Hill City, South Dakota. It is stated that the company expect during the coming year to build 35 or 40 miles of standard gauge railway to assist in the working of their mines. They own upward of 400 mining claims, covering a very large part of the tin-producing area of the Black Hills.

H. M. Curry, of Carnegie Brothers & Co., Limited, Pittsburgh, has returned from a visit to the Cuba iron ore mines.

Frank Litter, of Tunkhannock, Pa., has accepted a position in the foundry department of the Roanoke Machine Works.

J. P. Williams, recently secretary and treasurer of the Sloss Iron and Steel Company, of Birmingham, Ala., has taken the position of general manager of the Virginia Nail and Iron Works Company, of Lynchburg, Va., T. C. Jones having resigned.

Julian Kennedy, well known in manufacturing circles and at present chief engineer of the Latrobe Steel Works, of Latrobe, Pa., has opened an office in Rooms 701 and 702, Hamilton Building, Pittsburgh, consulting and contracting engineer. Mr. Kennedy will employ a staff of competent draftsmen, and is prepared to draw plans for the erection of rolling mills, steel works, blast furnaces, open-hearth and Bessemer steel plants, &c. He will also retain his connection as chief engineer for the Latrobe Steel Works, which firm have also opened a branch office in the rooms occupied by Mr. Kennedy.

Frank Dubosque, a draftsman in the Bureau of Construction and Repairs, at Washington, has resigned to become the company's superintendent of hull construction in the works of the Samuel L. Moore & Sons Company, of Elizabethport, N. J. Mr. Dubosque is the third draftsman who has left the bureau lately to enter into business with private firms.

John Dowling, formerly of Chattanooga, has assumed the management of the North Birmingham furnaces of the Sloss Iron and Steel Company.

Frank Warren, formerly of Chattanooga, is now assistant superintendent of the furnaces at Anniston, Ala.

Chief Engineer A. G. Menocal, of the Nicaragua Canal Company, arrived on Monday from Nicaragua.

The President has signed the commission of Commander Folger as Chief of the Bureau of Ordnance, Navy Department.

B. L. Keen, for several years a prominent iron broker of Chicago, has retired from that branch of the trade and is now superintending the rolling mill of the Calumet Iron and Steel Company at Cummings, a suburb of Chicago.

The stockholders of the Kimberly Iron Company, of Sharon, Pa., held a meeting in New Castle, Pa., on the 19th inst. and elected the following officers: President, George W. Johnson, of New Castle; treasurer, James Crawford, of New Castle; secretary, J. G. Butler, of Youngstown. Di-

rectors, G. W. Johnson, William Patterson, of New Castle; P. L. Kimberly, of Sharon; J. G. Butler, of Youngstown, and J. M. Langyere, of Michigan. The above concern are exclusively a land company, owning about 12,000 acres of undeveloped ore and timber land in Michigan. They are a stock company and the stock is quite largely distributed. A dividend of 30 cents per share on the stock was declared at the above meeting. The above concern do not, as a company, operate iron works of any kind and are not connected in any way with the firm of P. L. Kimberly & Co., who operate iron mines at Sharon, Greenville and New Castle.

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# CURRENT HARDWARE PRICES.

FEBRUARY 19, 1890.

Note.—The quotations given below represent the Current Hardware Prices which prevail in the market at large. They are not given as manufacturers prices, and manufacturers should not be held responsible for them. In cases where goods are quoted at lower figures than the manufacturers name, it is not stated that the manufacturers are selling at the prices quoted, but simply that the goods are being sold, perhaps by the manufacturers, perhaps by the jobbers at the figures named.

## Adjusters, Blind.

Domestic..... \$3.00, 33¢  
Excelsior..... \$10.00, 50¢  
Washburn's Self-Locking..... 20¢

## Ammunition.—

Caps, Percussion, 1000—  
Hicks & Goldmark's and Union Metallic Cartridge Co. .... 45¢  
F. L. Waterproof, 1-10's..... 34¢  
E. B. Trimmied Edge, 1-10's..... 46¢  
E. B. Grad. Edge, Cent. Fire, 1-10's..... 46¢  
Musket Waterproof, 1-10's..... 50¢  
G. D. .... 28¢  
S. B. Genuine Imported..... 54¢  
Eley's E. B. .... 54¢  
Eley's D Waterproof, Central Fire..... \$1.00

Cartridges—  
Rim Fire Cartridges..... 50¢  
Rim Fire Military..... 15¢  
Cent. Fire, Pistol and Rifle..... 25¢  
Cent. Fire, Military and Sporting..... 15¢

Blank Cartridges, except 22 and 32 cal., additional 10% on above discounts.  
Blank Cartridges, 22 cal., \$1.75..... 2¢  
Blank Cartridges, 32 cal., \$3.50..... 2¢  
Primed Shells and Bullets..... 15¢  
B. B. Caps, Round Ball, \$1.75..... 2¢  
B. B. Caps, Con. Ball, Swd., \$2.00..... 2¢

Primers—  
Berdan Primers, \$1.00..... 2¢  
B. L. Caps (for Sturtevant Shells) \$1.00..... 2¢  
All other Primers, \$1.20..... 2¢

## Shells—

First quality, 4, 8, 10 and 12 gauge..... 25¢  
First quality, 14, 16 and 20 gauge (\$10 list)..... 30¢  
Star, Club, Rival and Climax brands..... 20¢  
Selbold's Comb. Shot Shells..... 15¢  
Brass Shot Shells, 1st quality..... 60¢  
Brass Shot Shells, Club, Rival, Climax..... 65¢  
I X L, 10 and 12 gauge..... 40¢  
"Special," 16 gauge..... 30¢  
"Special," 10 and 12 gauge..... 40¢  
Fowler's Pat..... 35¢

## Shells Loaded—

Standard. List..... 40¢  
Wads—Price per M.  
U. M. C. & W. R. A.—B. E., 11 up..... 68¢  
U. M. C. & W. R. A.—B. E., 9 & 10..... 82¢  
U. M. C. & W. R. A.—B. E., 8..... 96¢  
U. M. C. & W. R. A.—B. E., 7..... \$1.10  
U. M. C. & W. R. A.—P. E., 11 up..... 1.15  
U. M. C. & W. R. A.—P. E., 9 & 10..... 1.50  
U. M. C. & W. R. A.—P. E., 8..... 1.70  
U. M. C. & W. R. A.—P. E., 7..... 1.80  
Eley's B. E., 11 up..... \$1.75  
Eley's P. E., 11 up..... 2.80

## Anvils—

Eagle Anvils, 10¢..... 15¢  
Peter Wright's..... 10¢  
Armstrong's Mouse Hole..... 9¢  
Armstrong's Mouse Hole, Extra 11 1/2"..... 11¢  
Trenton..... 9¢  
Wilkinson's..... 9¢  
J. & Riley Car. Pat. Co..... 11¢  
Moore & Barnes Mfg. Co..... 33¢  
Anvil Vise and Drill—  
Millers Falls Co., \$18.00..... 20¢  
Cheney Anvil and Vise..... 25¢  
Allen Anvil and Vise, \$3.00..... 40¢  
Star..... 45¢

## Apple Parers—See Parers, Apple, &c.

## Augers and Bits—

Douglas Mfg. Co..... 70¢  
Wm. A. Ives & Co..... 70¢  
Humphreysville Mfg. Co..... 70¢  
French, Swift & Co. (F. H. Beecher, P. S. & W. Co.)..... 70¢  
Rockford Bit Company..... 70¢  
Cook's, Douglas Mfg. Co..... 55¢  
Cook's, N. H. Copper Co. 50¢  
Ives' Circular Lip..... 30¢  
Patent Single Head..... 30¢  
C. E. Jennings & Co., No. 10, extension lip..... 40¢  
C. E. Jennings & Co., No. 30..... 60¢  
C. E. Jennings & Co., Auger Bits, set, 32 1/2" quarters, No. 5, \$5; No. 30, \$3.50..... 20¢  
Lewis' Patent Single Twist..... 45¢  
Russell Jennings' Augers and Bits..... 55¢  
Imitation Jennings' Bits..... 60¢  
Snell's Jennings Pattern..... 60¢  
Fugh's Black..... 60¢  
Rockford, Jennings' Pattern..... 60¢  
Car Bits..... 60¢  
Car Bits, P. S. & W. Co..... 60¢  
Snell's Car Bits..... 60¢  
L. Hommedieu Car Bits..... 15¢  
Worstin' Pat. Auger Bits..... 10¢  
Cincinnati Bell-Hangers' Bits..... 30¢

## Hollow Augers—

Ives..... 33¢  
French, Swift & Co..... 33¢  
Douglas..... 33¢  
Bonney's Adjustable, \$4.80..... 40¢  
Stearns..... 20¢  
Ives' Expansive, each \$4.50..... 50¢  
Universal Expansive, each \$4.50..... 20¢  
Wood's..... 25¢  
Cincinnati Adjustable..... 30¢  
Cincinnati Standard..... 25¢

## Expansive Bits—

Clark's small, 18"; large, \$36..... 35¢  
Ives' No. 4, \$1.00..... 40¢  
Swan's..... 35¢  
Stearns' No. 2, \$48..... 20¢

## Gimlet Bits—

Common..... \$2.75 @ \$3.25  
Diamond..... \$1.10..... 25¢  
See..... 25¢

Double Cut, Shepardson's..... 45¢  
Double Cut, Ct. Valley Mfg. Co..... 30¢  
Double Cut, Hartwell's, \$ gro..... 55¢  
Double Cut, Douglass..... 40¢  
Double Cut, Ives..... 60¢

## Bit Stock Drills—

Morse Twist Drills..... 50¢  
Standard..... 50¢  
Cleveland..... 50¢  
Syracuse, for metal (wood list)..... 30¢  
Syracuse, for wood (wood list)..... 30¢  
Williams' or Holt's, for metal..... 50¢  
Williams' or Holt's, for wood..... 40¢  
Cincinnati, for wood..... 30¢  
Cincinnati, for metal..... 40¢

## Ship Augers and Bits—

L'Hommiedieu's..... 15¢  
Watrous..... 15¢  
Snell's..... 15¢  
Snell's Ship Auger Pat'n Car Bits..... 15¢

## Awl Hafts—See Hafts, Awl.

## Awls, Brad Sets, &c—

Awls, Sewing, Common \$ gr \$1.70, 35¢  
Awls, Should. Peg, \$ gr \$2.45, 40¢  
Awls, Pat. Peg, \$ gr 63¢, 40¢  
Awls, Shouldered Brad, 2.70 \$ gr..... 35¢  
Awls, Handled Brad, \$7.50 \$ gr..... 45¢  
Awls, Handled Scratch \$ gr, \$7.50, 35¢  
Awls, Socket Scratch, \$ doz, \$1.50, 25¢

## Awl and Tool Sets—See Sets, Awl and Tool.

## Axes—

Makers' and Special Brands—  
First quality..... \$ doz \$6.00 @ \$6.50  
Others..... \$ doz \$5.00 @ \$5.75

## Axle Grease—See Grease, Axle.

## Axles—

No. 1, 1 1/4 @ \$5, No. 2 5/8 @ \$6 1/2  
Nos. 7 to 14..... 55¢  
Nos. 15 to 18..... 47¢  
Nos. 19 to 22..... 75¢  
National Tubular Self-Oiling Standard Farm (1 to 5) and Special Farm (A1 to A5)  
Less than 10 sets..... 33¢  
Over 10 sets..... 33¢

## Bag Holders—See Holders, Bag.

## Balances—

Spring Balances..... 50¢  
Common 24"..... \$ doz \$1.50..... 50¢  
Chatillon's Spring Balances..... 50¢  
Chatillon's Circular Spring Balances..... 60¢

## Bars.

Crow..... \$ D 4 1/2¢  
Cast Steel..... \$ D 3 1/2¢  
Iron, Steel Points..... \$ D 3 1/2¢

## Basins, Wash—

Standard Fiberglass, No. 1, 10 1/2-inch, \$2; 12-inch, \$2.25; 13 1/2-inch, \$2.75; 15-inch, \$3.25.

## Beams, Scale—

Scale Beams, List Jan. 12, '82..... 50¢  
Chatillon's No. 1..... 40¢  
Chatillon's No. 2..... 50¢

## Beaters, Egg, &c—

Keystone, P. D. & C., Each No. 1, \$1; No. 2, \$2..... 25¢  
Dover..... \$ doz \$1.50..... 35¢  
National..... \$ doz \$4.50..... 35¢  
Family (T. & S. Mfg. Co.), \$ gro \$17.00..... \$18.00

## Duplex (Standard Co.)..... \$ doz \$1.25

Rival (Standard Co.)..... \$ doz \$1.00  
Duplex Extra Heavy (Standard Co.)..... \$ doz \$1.50

## Triumph (T. & S. Mfg. Co.), \$ gro \$10.50

Advance, No. 1..... \$ gro \$10.50  
Advance, No. 2..... \$ gro \$10.00

## Bryan's..... \$ gro \$14.00

Ayrer's Spiral..... \$ gro \$5.00  
Double (H. & R. Mfg. Co.)..... \$ gro \$16.50

## Easy (H. & R. Mfg. Co.)..... \$ gro \$14.00

Triple (H. & R. Mfg. Co.)..... \$ gro \$16.20  
Spiral (H. & R. Mfg. Co.)..... \$ gro \$4.50

## Paine, Diehl & Co.'s..... \$ gro \$24.00

## Bells—

Electric..... 20¢  
Wollensak's..... 20¢  
Bigelow & Dowse..... 20¢  
Taylor's..... 20¢

## Hand—

Light Brass..... 70¢  
Extra Heavy..... 60¢  
White Metal..... 60¢  
Silver Chime..... 33¢  
Globe (Cone's Patent)..... 25¢

## Door—

Gong, Abbe's..... 33¢  
Gong, Yankee..... 45¢  
Gong, Barton's..... 40¢  
Crane, Taylor's..... 25¢  
Crane Brooks'..... 50¢  
Crane Cone's..... 10¢  
Crane Connel's..... 20¢  
Lever, Sargent's..... 60¢  
Lever, Taylor's Japaned or Plated..... net

## Lever, R. E. M. Co.'s..... 50¢

Pull, Brook's..... 50¢  
Pull, Western..... 25¢

## Cow

Common Wrought..... 60¢  
Western, Sargent's list..... 70¢  
Kentucky, "Star"..... 20¢  
Kentucky, Sargent's list..... 70¢  
Dodge, Genuine Kentucky..... 70¢  
Texas Star..... 50¢

Call..... 40¢  
Farm Bells..... 35¢  
Steel Alloy Church and School Bells..... 40¢

## Bellows—

Blacksmiths'..... 60¢  
Molders'..... 40¢  
Hand Bellows..... 40¢

## Belted, Rubber—

Common Standard..... 70¢  
Standard..... 70¢  
Extra..... 60¢  
N. Y. B. & P. Co., Carbon..... 60¢  
N. Y. B. & P. Co., Diamond..... 60¢

## Bench Stops—See Stops, Bench.

## Benders, Upsetters, Tire.

Stoddard's Lightning Tire Upsetters..... 15¢  
Detroit Perfected Tire Bender..... 15¢

## Bits—

Auger, Gimlet, Bit Stock, Drills, &c., see Augers and Bits.

## Bit Holders—See Holders.

## Blind Adjusters—See Adjusters, Blind.

## Blind Fasteners—See Fasteners, Blind.

## Blind Staples—See Staples, Blind.

## Blocks—

Ordinary Tackle, list May 20, 1889..... 50¢  
Cleveland Block Co., Mal. Iron..... 50¢  
Moore's Novelty, Mal. Iron..... 50¢

## Boils—

Door and Shutter—  
Cast Iron Barrel, Square, &c..... 70¢  
Cast Iron Shutter Bolts..... 70¢  
Cast Iron Chain (Sargent's list)..... 65¢  
Ives' Patent Door Bolts..... 60¢  
Wrought Barrel..... 70¢  
Wrought Square..... 70¢  
Wrt Shutter, all Iron, Stanley's..... 40¢  
Wrt Shutter, Brass Knob..... 40¢  
Wrt Shutter, Sargent's list..... 60¢  
Wrt Sunk Flush, Sargent's list..... 55¢  
Wrt Sunk Flush, Stanley's list..... 50¢  
Wrt B.K. Flush, Com'n..... 55¢

## Carriage, Machine, &c—

Com. list June 10, '84..... 70¢  
Genuine Eagle, list Oct. '84..... 75¢  
Phila. pattern, list Oct. '84..... 80¢  
R.B. & W., old list..... 70¢  
Machine, list Jan. 1, 1890..... 75¢  
Boit Ends, list Jan. 1, 1890..... 75¢

## Tire—

Common, list Feb. 28, '83..... 67¢  
Port Chester Bolt and Nut Company..... 67¢  
Empire, list Feb. 28, '83..... 67¢  
Keystone, Philadel., list Oct. '84..... 80¢  
Norway, Phila., list Oct. '84..... 75¢  
American Screw Company..... 75¢  
Norway, Phil., list Oct. '84..... 75¢  
Eagle, Phil., list Oct. '84..... 80¢  
Phila., list Oct. '84..... 80¢  
Bay State, list Feb. 28, '83..... 67¢  
R.B. & W., Philadel., list Oct. '84..... 80¢

## Stove and Plow—

Stove..... 62¢  
Plow..... 60¢  
R. B. & W., Plow..... 55¢

## Borers, Tap.

Common and Rind..... 20¢  
Ives' Tap Borer..... 20¢  
Enterprise Mfg. Co..... 20¢  
Clark's..... 33¢

## Borax..... \$ D 9¢ @ 10¢

## Boring Machines—See Machines, Boring.

## Bow Pins—See Pins, Bow.

## Boxes, Wagon.

Per D..... 2¢

## Braces—

Barber's..... 10¢  
Nos. 10 to 16..... 10¢  
Nos. 30 to 33..... 50¢  
Nos. 40 to 63..... 50¢  
Barker's..... 75¢  
Plated, Nos. 8, 10 and 12..... 65¢  
Osgood's Ratchet..... 40¢  
Spofford's..... 50¢  
Ives' New Haven Novelty..... 70¢  
New Haven Ratchet..... 60¢  
Barber Ratchet..... 60¢  
Barbers..... 60¢  
Spofford..... 60¢  
Common Ball, American..... \$1.00 @ \$1.10

## Bartholomew's..... 50¢

Nos. 25, 27 and 30..... 50¢  
Nos. 117, 118, 119..... 70¢  
Amlin's..... 75¢  
Barker's Imp'd Plain..... 75¢  
Barker's Imp. Nicked..... 65¢  
Ratchet..... 75¢  
Eclipse Ratchet..... 40¢  
Globe Jawed..... 40¢  
Corner Brace..... 40¢  
Universal, 8 in., \$2.10 10 in..... \$2.25  
Buffalo Ball..... \$1.10 @ \$1.15  
P. S. & W. Co., Peck's Patent..... 60¢

## Brackets—

Shelf plain, Sargent's list, 55¢ @ 55¢  
Shelf, fancy, Sargent's list, 60¢ @ 60¢  
Reading, plain..... 50¢  
Reading, Rosette..... 60¢

## Bright Wire Goods—See Wire.

## Broilers—

Hen's Self-1 Inch..... 9 10 9¢  
Basting..... \$ Per doz \$4.50 5.50 6.50

## Buckets—See Well Buckets and Pails.

## Buttels, Well.

Galvanized—  
Hill's..... \$ doz, 12 qt, \$4.25; 14 qt, \$5.25  
Iron Clad..... \$ doz, 14 qt, \$4.25 @ \$4.50  
Whiting's Flat Iron Band..... \$4.25 @ \$4.50  
Whiting's Wired Top..... \$ doz \$4.00 @ 4.25

## Bull Rings—See Rings, Bull.

## Butcher's Cleavers—See Cleavers Butchers.

## Butts—

Brass—  
Wrought Brass..... 75¢  
Cast Brass, Tiebout's..... 33¢  
Cast Brass, Corbin's, Fast..... 33¢  
Cast Brass, Loose Joint..... 33¢

## Cast Iron—

Fast Joint, Narrow..... 50¢  
Fast Joint, Broad..... 50¢  
Loose Joint..... 70¢  
Loose Joint, Jap. with Acorns..... 70¢  
Parliament Butts..... 70¢  
Mayer's Hinges..... 70¢  
Loose Pin, Acorns..... 70¢  
Loose Pin, Acorns, Japanned..... 70¢  
Loose Pin, Acorns, Japanned, Plated Tips..... 70¢

## Wrought Steel—

Fast Joint, Narrow..... 50¢  
Fast Joint, Broad..... 50¢  
Loose Joint, Broad..... 70¢  
Table Butts, Back Flaps, &c..... 70¢  
Inside Blind, Regular..... 70¢  
Inside Blind, Light..... 70¢  
Loose Pin..... 50¢

## Calipers—See Compasses.

## Calks, Toe—

Gautier..... \$ D 5¢ @ 6¢  
Dewicks (Burke)..... \$ D 5¢ @ 6¢

## Can Openers—See Openers, Can.

## Cards—

Horse & Curry..... 10¢  
Cotton..... 10¢  
Wool..... 10¢

## Carpet Stretchers—See Stretchers Carpet.

## Carpet Sweepers—See Sweepers Carpet.

## Cartridges—See Ammunition.

## Casters—

Bed..... 55¢  
Plate..... 55¢  
Shallow Socket..... 40¢  
Deep Socket..... 40¢  
Yale Casters, list May, 1884..... 30¢  
Yale, Gem..... 60¢  
Martin's Patent (Phoenix)..... 45¢  
Payson's Anti-friction..... 60¢  
Giant Truck Casters..... 60¢  
Stationary Truck Casters..... 60¢  
Socket Truck Casters..... 50¢

## Cattle Leaders—See Leaders, Cattle.

## Chain—

Trace, 6 1/2-10-2, exact..... 50¢  
Trace, 6 1/2-10-3, exact..... 50¢  
Trace, 7-10-2, exact..... 50¢  
Trace, 7-10-3, exact..... 50¢  
NOTE.—Traces, "Regular" sizes, 3¢ net per pair less than exact.

## Log, Fire, Stretcher, and other fancy Chains, list Nov. 1, 1884..... 50¢

American Coll. in cask lots..... 3.16 3.16 3.16  
3.16 3.16 3.16  
\$8.00 5.70 4.80 4.30 3.90 3.75 3.65 3.55  
Less than cask lots, add 1/4¢ per lb.  
German Coll, list of June 20, 1887..... 50¢  
German Halter Chain, list of June 20, 1887..... 60¢  
Covert Halter..... 35¢  
Oneda Halter Chain..... 60¢  
Galvanized Pump Chain..... 75¢  
Jack Chain, Iron..... 75¢  
Jack Chain, Brass..... 70¢

## Chalk—

White..... \$ gr 50¢  
Red..... \$ gr 70¢  
Blue..... \$ gr 85¢  
See also Crayons.

## Chalk Lines—

See Lines.

## Chisels—

Socket Framing and Firmer..... 40¢  
P. S. & W..... 40¢  
New Haven..... 40¢  
Witherby..... 75¢  
Ohio Tool Co..... 75¢  
Douglas..... 75¢  
Buck Bros..... 30¢  
Merrill..... 60¢  
L. & J. White..... 30¢

## Tanged and Miscellaneous.

Tanged Firmer..... 40¢  
Butchers'..... \$4.75 @ \$5.00  
Spear & Jackson's..... \$5 to 2  
Buck Bros..... 30¢  
Cold Chisels, \$ D..... 16¢ @ 19¢



**Chucks—**

Beach Pat.	each, \$8.00	20%
Morse's Adjustable, each	\$7.00, 20% to 20%	5%
Danbury's	each, \$6.00, 30% to 30%	5%
Syracuse, Ball Pat.		25%
Skinner's Pat. Drill Chucks		30%
Skinner's Independent Lathe Chucks		40%
Skinner's Pat. Comb. Chuck		40%
Union Mfg. Co.		
Victor	each, \$8.50	25%
Combination		40%
Universal		40%
Independent		40%

**Clamps—**

R. I. Tool Co.'s Wrought Iron		25%
Adjustable, Cincinnati		15% to 10%
Adjustable, Hammers		15%
Adjustable, Stearn's		20% to 10%
Stearn's Adjustable Cabinet and Corner		20% to 10%
Cabinet, Sargent's		60% to 10%
Carriage Makers', P. S. & W. Co.		40% to 10%
Eberhard Mfg. Co.		40% to 50% to 10%
Warner's		40% to 10% to 40% to 10%
Saw Clamps, see Vises		
Carpenters', Cincinnati		15%

**Cleavers.**

Bradley's		25% to 30%
L. & J. White		20% to 5%
Beatty's		40% to 40% to 5%
New Haven Edge Tool Co.'s		40%
P. S. & W.		33% to 50% to 33% to 10%
Foster Bros.		30%
Schultz, Lohoff & Co.		40% to 40% to 5%

**Clips—**

Norway, Axle, 1/4 & 5-16		55% to 5% to 5%
2nd grade Norway Axle, 1/4 & 5-16		65% to 5%
Superior Axle Clips		60% to 5% to 70%
Norway Spring Bar Clips, 5-16		60% to 5% to 5%
Wrought-Iron Felloe Clips		5% to 5%
Steel Felloe Clips		5% to 5%
Maker Axle Clips		25%

**Cloth and Netting, Wire.**

Painted Screen Cloth, good quality,		
100 sq. ft., \$1.80		\$1.90
Galvanized Wire Netting		70% to 70% to 10%

**Cockeyes.**

Hardware list		60% to 2%
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**Cocks, Brass.**

Hardware list		60% to 2%
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**Coffee Mills—See Mills, Coffee.****Collars, Dog, &c.**

Medford Fancy Goods Co.		40% to 10%
Embossed, Gift, Pope & Steven's list		30% to 10%
Leather, Pope & Steven's list		40%
Brass, Pope & Steven's list		40%

**Combs, Curry.**

Fitch's		50% to 10% to 50% to 10% to 10%
Rubber, per doz		\$10.00
Perfect		50%

**Compasses, Dividers, &c.—**

Compasses, Calipers, Dividers		70% to 70% to 10%
Bemis & Call Co.'s		
Dividers		60% to 5%
Compasses & Calipers		50% to 5%
Wing and Inside or Outside		50% to 5%
Double		60%
(Call's Pat. Inside)		30%
Excelsior		50%
J. Stevens & Co.'s		25% to 10%
Starrett's		
Spring Calipers and Dividers		25% to 10% to 10%
Lock Calipers and Dividers		25% to 10%
Combination Dividers		25% to 10%

**Coopers' Tools—See Tools, Coopers'.****Cord, Sash—**

Common		10% to 11%
Patent, good quality		13% to 13%
White Cotton Braided, fair		28% to 28%
Common Russia Sash		13% to 13%
Patent		15%
Cable Laid Italian Sash		22% to 23%
Indian Cable Laid		13%
Silver Lake		
A quality, White, 50f		10% to 10% to 5%
A quality, Drab, 55f		10% to 10% to 5%
B quality, White, 50f		20% to 10% to 5%
B quality, Drab, 55f		20% to 10% to 5%
C quality, White (only)		20% to 28%
Sylvan Spring, Extra Braided, White		30%
Sylvan Spring, Extra Braided, Drab		30%
Semper Item, Braided, White		30%
Egyptian, India Hemp, Braided		25%
Samson—		
Braided, White Cotton, 50f		30% to 30% to 5%
Braided, Drab Cotton, 55f		30% to 30% to 5%
Braided, Italian Hemp, 55f		30% to 30% to 5%
Braided, Linen, 80f		30% to 30% to 5%

**Corkscrews—See Screws, Cork.****Corn Knives and Cutters—See Knives, Corn.****Crackers, Nut—**

Table (H. & R. Mfg. Co.)		40%
Blake's Pattern		20% to 20% to 10%
Turner & Seymour Mfg. Co.		50%

**Cradles—**

Grain		50% to 5% to 20% to 50% to 10% to 2%
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**Cravens.**

White Cravens, per gr, 12¢		10% to 10%
D. M. Stewart Mfg. Co., Metal Work		
ers, per gr, \$2.50		25%
D. M. Stewart Mfg. Co., Rolling Mill		
See also Chaik.		25%

**Crow Bars—See Bars, Crow.****Curry Combs—See Combs, Curry.****Curtain Pins—See Pins, Curtain.****Cutters—**

Meat.		
Dixon's per doz		40% to 5%
Nos. 1 2 3 4		
Each		\$14.00 \$17.00 \$19.00 \$20.00
Woodruff's per doz		40% to 5%
Nos.		100 100 100 100
Each		\$15.00 \$18.00
Hales Pattern per doz		70% to 40% to 5%
Nos.		11 12 13
Each		\$27.00 \$33.00 \$45.00
American		
Nos.		1 2 3 4 5
Each		\$5 \$7 \$10 \$25 \$50 \$60
Enterprise		
Nos.		10 12 22 32 42
Each		\$3 \$2.50 \$4 \$6 \$7
Pennsylvania		
Nos.		1 2 3 4 5
Each		\$21.00 \$28.00 \$30.00 \$28.00
Miles' Challenge per doz		45% to 45% to 10%
Nos.		1 2 3
Each		\$22.00 \$30.00 \$40.00
Home No. 1		per doz, \$26.00, 55% to 10%
Draw Cut, each		
Nos.		2 3 4 5
Each		\$50 \$75 \$100 \$225 20% to 25%
Beef Shavers (Enterprise)		20% to 10% to 30%
Little Giant		50%
Chadborn's Smoked Beef Cutter, per doz		\$86.00

**Tobacco.**

Champion		20% to 10% to 30%
Wood Bottom		per doz \$5.00 to \$5.25
All Iron		per doz \$4.25
Nashua Lock Co.'s		per doz, \$18.00, 50% to 55%
Wilson's		55%
Sargents		per doz, \$24, 55% to 10%
Acme		per doz \$20.00, 40%
Washer.		
Smith's Pat.		per doz \$12.00, 20% to 10% to 10%
Jenny's		per doz \$11.00, 33%
Penny's		per doz \$14, Jap'd, \$16.00, 55%
Appleton's		per doz \$16.00, 60% to 10%
Bouney's		new list
Cincinnati		25% to 10%

**Cutlery—**

Beaver Falls & Booth's		33%
Wostenholme		\$7.75 to 2

**Dampers, &c—**

Dampers, Buffalo		40% to 10%
Buffalo Damper Clips		40% to 10%
Crown Damper		40%
Excelsior		40% to 10%

**Diggers, Post Hole, &c—**

Samson Post Hole Digger, per doz		\$36.00, 25% to 10%
Fletcher Post Hole Augers, per doz		\$36, 30%
Eureka Diggers		per doz \$16.00 to \$17.00
Lead's		per doz \$8.00 to \$9.00
Vaughan's Post Hole Auger, per doz		\$13.00 to \$14.00
Kohler's Little Giant		per doz, \$18.00
Kohler's Hercules		per doz, \$15.00
Kohler's New Champion		per doz, \$9.00
Schneider		per doz, \$18.00
Ryan's Post Hole Diggers		per doz \$24.00
Cronk's Post Bars		per doz \$20.00
Gibbs Post Hole Digger, per doz		\$30.00, 50%
Imperial		per doz \$15, 45%

**Dividers—**

See Compasses.		
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**Dog Collars—See Collars, Dog, &c.****Door Springs—See Springs, Door.****Drawers.**

Money, per doz		\$18 to \$20
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**Drawing Knives—See Knives, Drawing.****Drills and Drill Stocks—**

Blacksmiths'		each \$1.75
Blacksmiths' Self-Feeding, each		\$7.50, 20%
Breast, P. S. & W.		40% to 10%
Breast, Wilson's		30% to 5%
Breast, Milners Falls		\$3.00, 25%
Breast, Bartholomew's		each \$2.50
Ratchet, Merrill's		20% to 20% to 5%
Ratchet, Ingersoll's		25%
Ratchet, Parker's		20% to 20% to 5%
Ratchet, Whitney's		20% to 10%
Ratchet, Weston's		20% to 25%
Ratchet, Moore's Triple Action		25% to 30%
Ratchet, Curtis & Curtis		30%
Whitney's Hand Drill, Plain, \$1.00		
Adjustable, \$12.00		20% to 10%
Wilson's Drill Stocks		10%
Automatic Boring Tools		\$1.75 to \$1.85

**Trotter Drills—**

Morse		50% to 10% to 5%
Standard		50% to 10% to 5%
Syracuse (Metal list)		50% to 10%
Cleveland		50% to 10% to 5%
Williams		50% to 10% to 10%
New Process		50% to 10% to 5%

**Drill Bits.—See Augers and Bits.****Drill Chucks.—See Chucks.****Dripping Pans—See Pans, Dripping.****Drivers, Screw.**

Douglas Mfg. Co.		20% to 10% to 10%
Dixon's		40% to 10%
Diston's Pat. Excelsior		45% to 10%
Buck Bros.		30%
Stanley R. & L. Co.'s		
Varnished Handles		65% to 10%
Black Handles		60% to 10%
Sargent & Co.'s		
N. 1 Foreed Blade		60% to 10% to 10%
Nos. 20, 30 and 40		60% to 10% to 10%
Knapp & Cowles' No. 1		60% to 10% to 70%
No. 1 Extra		60% to 10% to 10%
Nos. 00 & 4		50% to 50% to 10% to 5%
Stearns		20% to 10% to 5%
Gay & Parsons		35%
Champion		25% to 10%
Clark's Pat.		30% to 35%
Crawford's Adjustable		30%
Ellrich's Socket and Ratchet		25% to 25% to 0%
Allan's Spiral, new list		25%
Kohl's Common S-n-e		per doz \$6.00, 25% to 10%
Syracuse Screw-Driver Bits		30% to 30% to 4%
Screw-Driver Bits		per doz, 50% to 75%

Screw-Driver Bits, Parr's		per gro \$0.25
Fray's Hol. Hdle. Sets, No. 3		\$1.00
P. D. & Co.'s all Steel		25% to 15% to 10%
Cincinnati		20% to 10%
Brace Screw Drivers		25% to 10%
Buck Bros.' Screw-Driver Bits		

**Egg Beaters.—See Beaters, Egg.****Egg Pouches.—See Pouches, Egg.****Electric Bell Sets.—See Bells, Electric.****Emery.—No. 4 to No. 54 to Flour, CF**

46 gr.	150 gr.	F. FF.
Kegs, per doz	4 1/2¢	5¢
1/2 kegs, per doz	4 1/2¢	5 1/2¢
1/4 kegs, per doz	4 1/2¢	5 1/2¢
10-lb cans, 10		5¢
In case		6 1/2¢
10-lb cans, less		than 10, 10¢
10-lb cans, 10		10¢
10-lb cans, 10		7 1/2¢

**Enameled and Tinned Wave—**

See Ware, Hollow.

**Escutcheon Pins—See Pins, Escutcheon.****Escutcheons.**

Door Lock. Same dis as Door Locks.

Brass Thread. 60% to 60% to 10%

Wood. 25%

**Fasteners.**

Blind—		
Mackrell's, per doz, \$1.00		20% to 20% to 10%
Van Sand's screw Pat.		\$15, 50% to 10%
Van Sand's Old Pat.		\$15.00, 55% to 10%
Washburn's Old Pattern		per gr. \$9.00
Merriman's		new list
Austin & Eddy No. 2008		per gr. \$9.00
Security Gravity		per gr. \$9.00

**Faucets.—**

Fenn's		40%
Bohren's Pat. Rubber Ball		25%
Fenn's Cork Stops		33% to 4%
Star		60%
Frary's Pat. Petroleum		40% to 5% to 2%
B. & L. B. Co.		
West's Lock, Open and Shut Key		50%
Star, Metal Plug, new list		40%
Lockport, Metal Plug, reduced list		40%
Metallic Key, Leather Lined		60% to 10%

**Cork Lined.**

Bohren's Red Cedar, 50%

Burnside's Red Cedar, bbl lists, 50% to 10%

John Sommers'

Peerless Best Block Tin Key, 40%

IXL, lat quality, Cork Lined, 50%

Diamond Lock, 40%

Perfection, Fla. Red Cedar, 50%

Goodenough Cedar, 50%

Boss Metallic Key, 50%

Reliable Cork Lined, 60%

Western Pattern Cork Lined, 50%

Self-Measuring

Enterprise, per doz \$50.00, 20% to 10%

Land's, per doz \$36.00, 25% to 10%

Victor, per doz \$36.00, 25% to 10%

**Felloe Plates—See Plates, Felloe.****Fifth Wheels.—**

Derby and Cincinnati		50 5%
Brewster		55% to 5%

**Files—****Domestic—**

Nicholson Files, Rasps, &c. 60% to 10% to 60% to 10% to 5%

Nicholson (X. F.) Files, 25%

Nicholson's Royal Files (Second), 75%

(extra prices on certain sizes)

Other makers, best brands, 60% to 20%

Fair brands, 60% to 10% to 10% to 70% to 5%

Second quality, 70% to 10% to 75% to 10%

Nicholson's Horse Rasps, 60% to 10% to 60%

Heller's Horse Rasps, 50% to 7% to 50% to 10%

McCaffrey's Horse Rasps, 50% to 10%

Chelsea Horse Rasps, Hand Cut, 50% to 10%





Jennings ..... 5.50 6.75...45@45.10  
Other Machines... 2.35 2.75... net  
Phillips' Patent  
with Angers... 7.00 7.50.....  
Hoisting—  
Moore's Hand Hoist, with Lock  
Brake..... .20  
Moore's Differential Pulley Block..... .40  
Energy Mfg. Co's..... .25

**Mallets.**

Hickory..... .20@10@20@10@10  
Lignumvite..... .20@10@20@10@10  
B. & L. Block Co., Hickory & L. V.  
30@30@10  
Mattocks, Regular list..... .60@5

**Measures—**

Standard Fiberware, No. 1, peck, 7  
dozen, \$4; 1/2-peck, \$3.50.

**Meat Cutters—See Cutters, Meat.****Mills.****Coffee—**

Box and Side, List Jan. 1, 1888..... 60@2  
American, Enterprise Mfg. Co. 20@10@30  
The Swift, Lane Bros..... 20@10

**Mining Knives—See Knives, Mining.****Molasses Gates—See Gates, Molasses.****Money Drawers—See Drawers, Money.****Mowers.**

Standard List..... 50@10  
Quaker City..... 60@10  
Enterprise..... 60@10

**Muzzles—**

Safety..... 7 doz, \$3.00, 25

**Nails.**

Cut and Wire. See Trade Report.  
Wire Nails, Papered.  
Association list, July 15, 1889..... 70@5  
Tack Mfrs' list..... 60@10  
Wire Nails, Standard Penny.  
Card June 1, '89, base..... \$3.00 @ \$3.10

**Horse—**

Nos. 6 7 8 9 10  
Ausable..... 28 26 25 24 23  
Clinton, Fin..... 25@10@25@10@10  
Essex..... 28 26 25 24 23  
Lyra..... 25 23 22 21 20  
Snowden..... 25 23 22 21 20  
Putnam..... 23 21 20 19 18

Vulcan..... 23 21 20 19 18  
Northwest..... 23 21 20 19 18  
Globe..... 23 21 20 19 18  
Boston..... 23 21 20 19 18  
A. C..... 23 21 20 19 18  
C. B. K..... 25 23 22 21 20  
Champlain..... 28 26 25 24 23

New Haven..... 28 26 25 24 23  
Saranac..... 23 21 20 19 18  
Champion..... 25 23 22 21 20  
Capewell..... 28 26 25 24 23

Star..... 23 21 20 19 18  
Anchor..... 23 21 20 19 18  
Western..... 23 21 20 19 18  
Empire Brouzel..... 14 13 12

**Picture—**

Brass Head, Sargent's list..... 50@10@10  
Brass Head, Combination list..... 50@10  
Porcelain Head, Sargent's list..... 50@10  
Porcelain Head, Combination list..... 40@10  
Niles' Patent..... 40

**Nail Pullers.—See Pullers, Nail.****Nail Sets.—See Sets, Nail.****Nut Crackers.—See Crackers, Nut.****Nuts—**

Nuts, off list Dec. 18, 1889: Square, Hex.  
Hot Pressed..... 4 1/2 5 1/2  
Cold Punched..... 5 6 7  
In lots less than 100 lb, 5 lb, add 1/2; 1 lb  
boxes, add 1 lb to list.

Okum—  
Government..... 7 1/2 @ 7 3/4  
U. S. Navy..... 7 1/2 @ 7 3/4  
Navy..... 7 1/2 @ 7 3/4

**Oilers—**

Zinc and Tin..... 85@10@10  
Brass and Copper..... 50@10@10  
Malleable, Hammers' Improved, No. 1,  
\$3.00; No. 2, \$4.00; No. 3, \$4.40 7 doz.  
10@10@5  
Malleable, Hammers, Old Pattern, same  
list..... 40  
Prior's Pat. or "Paragon" Z..... 60@10@10  
Prior's Pat. or "Paragon" Brass..... 50  
Olmstead's Tin and Zinc..... 60  
Olmstead's Brass and Copper..... 50  
Broughton's Zinc..... 60  
Broughton's Brass..... 50  
Gem P. D. & Co..... 50 gro. 82

**Openers, Can.**

Messenger's Comet..... 7 doz \$3.00, 25  
American..... 7 gross \$3.00  
Duplex..... 7 doz \$3.00  
Lyman's..... 7 doz \$3.75, 20  
No. 4 French..... 7 doz \$2.25, 55@60  
No. 5, Iron Handle..... 7 doz \$2.50, 45@50  
Eureka..... 7 doz \$2.50, 10  
Sardine Scissors..... 7 doz \$2.75@3.75  
Star..... 7 doz \$2.75  
Sprague, No. 1, \$2.00; 2, \$2.25; 3, \$2.50  
50@10@10

World's Best, 7 gross, No. 1, \$12.00  
No. 2, \$24.00; No. 3, \$36.00..... 50@10  
Universal, 7 doz \$3.00..... 35@5  
Domestic, 7 doz \$2.50..... 45  
Champion 7 doz \$2.00..... 15

**Packing, Steam—**

Rubber—  
Standard..... 60@10@60@10@10  
Extra..... 50@10@60  
N. Y. B. & P. Co., Standard..... 50@10@60  
N. Y. B. & P. Co., Empire..... 70  
N. Y. B. & P. Co., Salamander..... 70  
Jenkins' Standard..... 7 1/2 doz 65, 30  
7 1/2 doz 80, 35

Miscellaneous—  
American Packing..... 10@11 1/2  
Russia Packing..... 14 1/2  
Italian Packing..... 13 1/2@14 1/2  
Cotton Packing..... 15 1/2@17 1/2  
Rute..... 7 1/2@8 1/2

Padlocks—  
See Locks.

Parers.  
Apple.  
Advance..... 7 doz \$4.75  
Antrim Combination..... 7 doz 5.50  
Baltwin..... 7 doz 5.25  
Champion..... 7 doz 7.25  
Daisy..... 7 doz 4.00  
Eureka, 1888..... each 17.00  
Family Bay State..... 7 doz 12.00  
Favorite..... 7 doz 5.00  
Gem..... 7 doz 5.25  
Gold Medal..... 7 doz 4.00  
Ideal..... 7 doz 4.00  
Improved Bay State..... 7 doz 30.00  
Little Star..... 7 doz 4.50  
Monarch..... 7 doz 13.50  
New Lightning..... 7 doz 5.00  
Orion..... 7 doz 4.00  
Penn..... 7 doz 4.00  
Perfection..... 7 doz 4.00  
Pomona..... 7 doz 4.00  
Rocking Table..... 7 doz 6.00  
Turntable..... 7 doz 4.50  
Victory..... 7 doz 4.00  
Waverly..... 7 doz 4.00  
White Mountain..... 7 doz 4.50  
72..... 7 doz 4.25  
70..... 7 doz 5.75  
78..... 7 doz 6.50

White Mountain..... 7 doz \$5.00@5.50  
Antrim Combination..... 7 doz \$8.00  
Hoosier..... 7 doz \$13.50

Patrol—  
Galvanized Iron—See Trade Report

Quarts..... 10 12 14  
Bill's Light Weight, 7 doz, \$2.75, 3.00, 3.25  
Bill's Heavy Weight, 7 doz, 3.00, 3.25, 3.75  
Whiting's..... 2.75 3.00 3.25  
Sidney Shephard & Co..... 2.94 3.15 3.7  
Iron Buckets..... 2.50 2.75 3.00  
Fire Buckets..... 2.75 3.25 3.50  
Buckets, see Well Buckets.

Indurated Fibre Ware—25¢  
star Pails, 12 qt..... 7 doz \$6.00  
Fire, Stable and Milk, 14 qt..... 7 doz \$7.80

Standard Fibre Ware—  
Water Pails, 12 qt., per doz, \$4.00, \$4.50  
Dairy Pails, 14 qt., per doz, 4.50 5.00  
Fire Pails, No. 2, 14 qt., per doz, 5.00 6.50  
Sugar Pails..... 6.00 6.50  
Horse Pails..... 5.00  
Bugsy Pails..... 4.00  
Slop Jars (bat trap)..... 8.00 9.00  
Chamber Pails, 14 qt..... 6.50 7.50

Pans.  
Dripping.  
Small sizes..... 7 1/2 doz 6 1/2  
Large sizes..... 7 1/2 doz 5 1/2

Fry—  
Standard List:  
No..... 0 1 2 3 4  
No..... \$3.00 \$3.75 \$4.25 \$4.75 \$5.25  
No..... 5 6 7 8  
No..... \$6.00 \$7.00 \$8.00 \$9.00  
Polished, regular goods..... 70@10  
Acme Fry Pans..... 60@10

Paper and Cloth—  
Sand and Emery—  
List April 19, 1886..... 50@50@10  
Sibley's Emery and Crocus Cloth..... 30

Pencils—  
Faber's Carpenters'..... high list 50¢  
Faber's Round Gilt..... 7 gro \$5.25  
Dixon's Lead..... 7 gro \$4.50  
Dixon's Lumber..... 7 gro \$6.75  
Dixon's Carpenters'..... 40@10

Picks—  
Railroad or Adze Eye, 5 to 6, \$12.00;  
6 to 7, \$13.00..... 80@60@5

Picture Nails.—See Nails, Picture.

Pinking Irons.—See Irons, Pinking.

Pipe, Wrought Iron—  
List September 18, 1889.  
1 1/4 and under, Plain..... 47 1/2  
1 1/4 and under, Galvanized..... 40  
1 1/2 and over, Plain..... 60  
1 1/2 and over, Galvanized..... 47 1/2  
Roller Tubes, Iron.  
2 to 4 inches..... 45  
4 to 6 inches..... 50  
4-inch and larger..... 52 1/2

Pins.  
Curtain—  
Silvered Glass..... net  
White Enamel..... net

Iron, list Nov. 11, 1885..... 50@10@50@10@5  
Brass..... 60@60@5

Humason, Beckley & Co's..... 60@10  
Sargent & Co's..... \$17 and \$18..... 60@10  
Peck, Stow & W. Co..... 50@10@50@10@5

Planes and Plane Irons—  
Wood Planes—  
Molding..... 45@25  
Sash, First Quality..... 55@25  
Sash, Second Quality..... 60@25  
Bailey's (Stanley R. & L. Co.)..... 40@10

Iron Planes—  
Bailey's (Stanley R. & L. Co.)..... 40@10  
Miscellaneous Planes (Stanley R. & L.  
Co.)..... 20@10  
Victor Planes (Stanley R. & L. Co.)..... 20@10  
Steer's Iron Planes..... 35@35@5  
Merlen Mal Iron Co's..... 30@10@30@10@10  
Victor's Iron Planes..... 30@10@30@10@10  
Birmingham Plane Co..... 50@50@5  
Gage Tool Co's Self-Setting..... 20@10  
Chaplin's Iron Planes..... 40@40@5  
Sargent's..... 30@10@30@10@10

Plane Irons—  
Butcher's..... \$5.00@5.25 to 2  
Buck Bros..... 30  
Abram "Fistful"..... 35@25  
Ohio..... 35@25  
Landusky..... 25  
S. & J. J. White..... 25

Plates.  
Felloe..... 7 1/2 doz 6 1/2@6 1/2

Pliers and Nippers—  
Button's Patent..... 30@10@40  
Hall's No. 2, 5 in., \$13.50; No. 4, 7 in.  
..... 20@10@30@5  
Humason & Beckley Mfg. Co..... 50@50@10  
Gas Pliers..... 60  
Gas Pliers, Cutlar's Nickel Plated..... 60@5  
Eureka Pliers and Nippers..... 40  
Russell's Parallel..... 25  
P. S. & W. Cast Steel..... 50  
P. S. & W. Tinners' Cutting Nippers,  
add 6¢ dia 10¢

Carew's Pat. Wire Cutters..... 20  
Morrell's Parallel, 7 doz, \$12.00..... 30@5  
Cronk's 8 in., \$15.00; 10 in., \$21.00,  
40@40@5

Plumbs and Levels—  
Regular List..... 70@10@70@10@10  
Dixon's..... 45@10  
Pocket Levels..... 70@10@70@10@10  
Davis Iron Levels..... 30  
Davis' Inclinoimeters..... 10@10

Poachers.  
Eggs.  
Buffalo Steam Egg Poachers, 7 doz, No.  
1, \$6.00; No. 2, \$9.00..... 25

Polish, Metal.  
Prestoline..... 20@10  
Prestoline Paste..... 33 1/2  
Gaston's Silver Compound..... 33 1/2

Pokes, Animal—  
Bishop's I. X. L..... 7 doz \$6.00  
Bishop's O. K..... 7 doz \$5.25  
Bishop's Pioneer..... 7 doz \$3.75  
Bishop's American..... 7 doz \$2.75

Polish, Stove.  
Joseph Dixon's..... 7 gro \$6.00, 10¢  
Gem..... 7 gro \$4.50, 10¢  
Gold Medal..... 7 gro \$6.00, 25¢  
Mirror..... 7 pro \$6.00, 1¢  
Lustror..... 7 gro \$4.75  
Rising Sun, 5 gro lots..... 7 gro \$5.50  
Dixon's Plumbago..... 7 1/2 doz \$5.00  
Boynton's Noon Day, 7 gro..... 13.00  
Parlor Pride Stove Enamel..... 7 gro \$ cans  
Yates' Liquid, 2 3 5 10 gal..... 8¢  
Yates Standard Paste Polish, 10-b cans,  
7 1/2 doz 15¢

Jet Black..... 7 gro \$3.50  
Japanese..... 7 gro \$3.50  
Fireside..... 7 gro \$2.50  
Diamond O. K. Enamel..... 7 gro \$19.00  
Bonnell's Paste Stove Polish, 7 gro \$6.00  
Bonnell's Paste Stove Polish, 7 gro \$6.00  
Black Eagle Benzine Paste, 5 and 10 lb  
cans..... 12 1/2  
Black Jack Water Paste, 5 and 10 lb  
cans..... 12 1/2  
Nickel Plate Paste..... 7 gro \$6.00

Poppers, Corn—  
Round or Square, 1 qt., 7 gr \$10.00@10.50  
Round or Square, 1 1/2 qt., 7 gr \$15@15.50  
Round or Square, 2 qt., 7 gr \$18.50@19.00

Post Hole and Tree Augers  
and Diggers—See Diggers, Post  
Hole, &c.

Potato Parers—See Parers, Potato.

Pots.  
Glue—  
Tinned..... 40  
Enamelled..... 40@5  
Family, Howe's "Eureka"..... 40  
Family, L. F. C.'s "Handy"..... 50

Presses.  
Fruit and Jelly—  
Enterprise Mfg. Co..... 20@10@30  
Henis..... 7 doz \$2.50  
Shepard's Queen City..... 40

Pruning Hooks and Shears—  
See Shears.

Pullers.  
Nails.  
Curtis Hammer..... 7 doz \$9.00  
Giant, No. 1..... 7 doz \$18.00, 10¢  
Giant, No. 2..... 7 doz \$15.00, 10¢  
Pelican..... 7 doz \$9.00, 25¢

Pulleys—  
Hot House, Awning, &c..... 60@10  
Japanned Screw..... 60@10  
Brass Screw..... 60@10  
Japanned Lid..... 60@10  
Japanned Clothes Line..... 60@10  
Empire Sash Pulley..... 55@60  
Moore's Sash, Anti-Friction..... 50  
Hay Fork, Solid Eye, \$4.00; Swivel,  
\$4.50..... 50@10@50@10@5  
Hay Fork, "Anti-Friction," 5 in. Solid,  
\$5.70..... 50  
Hay Fork, "Common and Pat."  
Bushed..... 20  
Hay Fork, Tarbox Pat. Iron..... 20  
Hay Fork, Reed's Self-Lubricating..... 60  
Shade Rack..... 45  
Tackle Blocks..... See Blocks  
Moore's Anti-Friction 5 in. Wheel, 7 doz  
\$12.00..... 40

**Pumps—**

Cistern, Best Makers..... 60@60@10  
Pitcher Spout, Best Makers..... 67 1/2@70  
Pitcher Spout, Cheaper Goods..... 70@70@5

**Punches—**

Saddlers' or Drive, good, 7 doz..... 60@85  
Bemis & Call Co's Cast Steel Drive..... 50@5  
Bemis & Call Co's Springfield Socket..... 50@5  
Spring, good quality..... 7 doz \$2.50@2.90  
Spring, Leach's Pat..... 15  
Bemis & Call Co's Spring and Check..... 40  
Solid Timmers' P.S. & W. Co., 7 doz \$1.44, 55¢  
Tin's Hollow Punches P.S. & W. Co. 20@25  
Rice Hand Punches..... 40  
Avery's Revolving..... 40  
Avery's Saw-Set and Punch. See Saw Sets.

**Rail—**

Sliding Door, Wrt Brass, 7 1/2 doz..... 15  
Sliding Door, Bronzed Wrt Iron, 7 ft. 7  
Sliding Door, Iron, Painted, 7 foot 4, 40¢  
Barn Door, Light In..... 10  
Per 100 feet..... \$2.00 2.50 3.10, 10¢  
B. D. for N. E. Hangers..... Small. Med. Large.  
Per 100 feet..... \$2.15 2.70 3.25, net

Terry's Steel Rail, 7 foot..... 10¢  
Victor Track Rail, 7 1/2 foot..... 50@25  
Carrier Steel Rail, 7 foot..... 45¢  
Moore's Wrought Iron..... 25

**Rakes—**

Cast Steel, Association goods..... 70¢  
Cast Steel, outside goods..... 60@10@10@70@5  
Malleable..... 70@70@5  
Gibbs Lawn Rake..... \$12.00, 50¢15¢  
Canton Lawn Rake..... \$9.00, 50¢10¢  
Ft. Madison Prize Bow Brace and Peer-  
less..... 65¢  
Fort Madison Steel Tooth Lawn Rake,  
\$6.00..... 25

Razor  
J. R. Torrey Razor Co..... 20¢  
Wostenholme and Butcher, \$10.00 to 2,  
10¢  
Jordan's A.A.I., list Nov. 1, 1889..... 50¢  
Jordan's Old Faithful, list Nov. 1, '89, 50¢  
Electric..... List net

Razor Stroops—See Stroops, Razor.

Rings and Ringers.  
Bull—  
Union Co. Nut..... 55¢  
Sargent's..... 60@10@70@5  
Hotchkiss' low list..... 30¢  
Humason, Beckley & Co's..... 10¢  
Beck, Stow & W. Co's..... 50@10@50@10@5  
Elrich Hdw. Co., White Metal, low list,  
50@50@10

Hog—  
Hill's Improved Ringers..... 7 doz \$4.25  
Hill's Old Style Ringers..... 7 doz \$2.75  
Hill's Tongs..... 7 doz \$4.50  
Hill's Rings..... 7 doz \$2.15@2.25  
Perfect Ringers..... 7 doz \$1.60@1.70  
Perfect Ringers..... 7 doz \$2.15@2.25  
Blair's Hog Ringers..... 7 doz \$2.25@2.50  
Blair's Hog Ringers..... 7 doz \$2.25@2.50  
Champion Ringers..... 7 doz \$2.00  
Champion Ringers, Double..... 7 doz \$2.25  
Brown's Ringers..... 7 doz \$2.00  
Brown's Rings..... 7 doz \$1.25@1.30

Rivets and Burrs—  
Iron, list Nov. 17, '87..... 40¢  
Copper..... 50@50@10

Rivet Sets—See Sets.

Rods—  
Stair, Brass..... 25@25  
Stair, Black Walnut..... 7 doz 40¢

Rollers—  
Barn Door, Sargent's list..... 60@10@10  
Acme Moore's Anti-Friction..... 55¢  
Union Barn Door Roller..... 70

Rope—  
Manufacturers' prices:  
Manila, 1/2 in. and larger 7 1/2 15 1/2  
Manila, 3/4 in. 7 1/2 15 1/2  
Manila, 1/2 and 5-16 in. 7 1/2 15 1/2  
Manila Tarred Rope..... 7 1/2 15 1/2  
Manila Hay Rope..... 7 1/2 15 1/2  
Sisal, 1/2 inch and larger 7 1/2 15 1/2  
Sisal, 3/4 in. 7 1/2 15 1/2  
Sisal, 1/2 and 5-16 in. 7 1/2 15 1/2  
Sisal, Hay Rope..... 7 1/2 15 1/2  
Sisal, Tarred Rope..... 7 1/2 15 1/2  
Sisal, Medium Lathe Yarn, 7 1/2 15 1/2  
Cotton Rope..... 7 1/2 15 1/2  
Jute Rope..... 7 1/2 15 1/2

Wire—  
List May 1, 1889.  
Iron..... 30¢  
Iron, Galvanized..... 27 1/2¢  
Cast Steel..... 35

Rules—  
Boxwood..... 80@10@10@80@10@10@5  
Ivory..... 50@50@10  
Starrett's Rules and Straight Edges,  
Steel..... 25@10

Sad Irons—See Irons, Sad.

Sand and Emery Paper and  
Cloth—See Paper and Cloth, Sand  
and Emery.

Sash Cord—See Cord, Sash.

Sash Locks—See Locks, Sash.

Sash Weights—See Weights, Sash.

Sausage Stuffers or Fillers—  
See Stuffers or Fillers, Sausage.

Saws—  
Dixon's Cir-  
cular..... 45@45@5  
Dixon's Cross  
Cuts..... 45@45@5  
Dixon's Hand 25@25@5

Atkins' Circular Shingle an Heading 50¢10¢  
 Atkins' Silver Steel Diamond X Cuts 50¢10¢  
 Atkins' Special Steel Dexter X Cuts 50¢10¢  
 Atkins' Special Steel Diamond X Cuts 50¢10¢  
 Atkins' Champion and Electric Tooth X Cuts 50¢10¢  
 Atkins' Hollow Back X Cuts 50¢10¢  
 Atkins' Mulay, Mill and Drag 40¢10¢  
 Atkins' One-Man Saw, with handles 30¢5¢  
 W. M. & C. Hand 30¢5¢  
 W. M. & C. Champion X Cuts, Regular 50¢10¢  
 W. M. & C. X Cuts, Thin Back 50¢10¢

Peace Circular and Mill 45¢10¢  
 Peace Hand Panel and Rip 20¢10¢  
 Peace Cross Cuts, Standard 50¢10¢  
 Peace Cross Cuts, Thin Back 50¢10¢  
 Richardson's Circular and Mill 45¢10¢  
 Richardson's X Cuts, No. 1, 39¢; No. 2, 27¢; No. 3, 24¢

**Hack Saws.**  
 Griffin's, complete 40¢10¢  
 Griffin's Hack Saw, Blades 40¢10¢  
 Star Hack Saws and Blades 25¢  
 Diamond Hack Saws and Blades 25¢  
 Eureka and Crescent 25¢

**Scroll-**  
 Lester, complete, \$10.00 25¢  
 Rogers, complete, \$4.00 25¢  
 Barnes' Builders' and Cabinet Makers' 15¢  
 Barnes' Scroll Saw Blades 35¢

**Saw Frames—See Frames, Saw.**

**Saw Sets—See Sets, Saw.**

**Saw Tools—See Tools, Saw.**

### Sets.

**Academy Tool.**  
 Alken's Sets, Awls and Tools, No. 20, 50¢10¢  
 Pray's Adj. Tool Hds., No. 1, \$12; No. 2, \$18; No. 3, \$24; No. 4, \$30 25¢  
 Miller's Falls Adj. Tool Hds., No. 1, \$12; No. 2, \$18 25¢  
 Henry's Combination Haft 50¢10¢  
 Brad Sets, No. 42, \$10.50; No. 43, \$12.50 70¢10¢  
 Stanley's Excelsior, No. 1, \$7.50; No. 2, \$4.00; No. 3, \$5.50 30¢10¢

### Rivet.

Regular list 50¢10¢

### Saw.

Stillman's Genuine 50¢10¢  
 Stillman's Imita. 50¢10¢  
 Common Lever 50¢10¢  
 Morrill's No. 1, \$15.00; Nos. 3 & 4, \$24.00 40¢10¢  
 Leach's, No. 0, \$8.00; No. 1, \$15; No. 2, \$24 40¢10¢  
 Nash's 20¢10¢  
 Hammer, Hotchkiss 50¢10¢  
 Hammer, Bemis & Call Co.'s new Pat. 30¢5¢

Bemis & Call Co.'s Lever and Spring Hammer 30¢5¢  
 Bemis & Call Co.'s Plate 10¢  
 Bemis & Call Co.'s Cross Cut 12¢  
 Alken's Genuine 13¢10¢  
 Alken's Imitation 7¢10¢  
 Hart's Pat. Lever 20¢  
 Disston's Star, \$0, No. 15, \$5.50; No. 2, \$10 10¢10¢  
 Atkin's Lever, 50¢10¢

Atkin's Criterion 50¢10¢  
 Croissant (Keller), No. 1, \$15.00; No. 2, \$24.00 40¢10¢  
 Avery's Saw Set and Punch 50¢  
 Chieftain H. R. Co.'s Superior 50¢  
 Nail 50¢

Square 50¢10¢  
 Round 50¢10¢  
 Buck Bros 27¢  
 Cannon's Diamond Point 50¢10¢

### Scales.

Hatch, Counter, No. 171, good quality 50¢10¢  
 Hatch, Tea, No. 161 50¢10¢  
 Union Platform, Plain 20¢10¢  
 Union Platform, Striped 20¢10¢  
 Chatillon's Grocers' Trip Scales 50¢  
 Chatillon's Eureka 25¢  
 Chatillon's Favorite 40¢  
 Family, Turnbills 30¢10¢  
 Riehle Bros' Platform 40¢

**Scale Beams—See Beams, Scale.**

**Scissors, Flating 45¢**

### Scrapers—

Adjustable Box Scraper (S. R. & L. Co.) \$6.50 30¢10¢  
 Box, 1 Handle 50¢10¢  
 Box, 2 Handle 50¢10¢  
 Defiance Box and Ship 20¢10¢  
 Ship, Common 50¢10¢  
 Ship, R. I. Tool Co. 10¢

**Screen Window and Door Frames—See Frames.**

**Screw Drivers—See Drivers, Screw.**

### Screws.

**Cork—**  
 Humason & Beckley Mfg. Co. 40¢10¢  
 Williamson's 33¢10¢  
 Howe Bros & Hubert 35¢

**Wood Screws—List March 1, 1889.**  
 Flat Head Iron 50¢  
 Round Head Iron 40¢  
 Flat Head Brass 45¢  
 Round Head Brass 35¢  
 Flat Head Bronze 45¢  
 Round Head Bronze 35¢

### Machine—

Flat Head, Iron 55¢  
 Round Head, Iron 60¢

### Bench and Hand—

Bench, Iron 55¢10¢  
 Bench, Wood, Beech 50¢10¢  
 Bench, Wood, Hickory 20¢10¢  
 Hand, Wood 25¢10¢  
 Lag, Hunt Point, list Jan. 1, 1890 75¢10¢  
 Coach and Lag, Gimlet Point, list Jan. 1, 1890 75¢  
 Bed 75¢  
 Hand Rail, Sargent's 60¢10¢  
 Hand Rail, H. & B. Mfg. Co. 70¢10¢  
 Hand Rail, Am. Screw Co. 75¢  
 Jack Screws, Millers Falls list 50¢50¢  
 Jack Screws, P. S. & W. 35¢  
 Jack Screws, Sargent 60¢10¢  
 Jack Screws Stearns 40¢10¢

**Scroll Saws—See Saws, Scroll.**

**Scythe Snaths—See Snaths, Scythe.**

### Sharpeners.

#### Knife—

Applewood Handles 50¢10¢  
 Rosewood or Cocobolo 50¢10¢

### Shaves, Spoke.

Iron 45¢  
 Wood 30¢  
 Bailey's (Stanley R. & L. Co.) 40¢10¢  
 Stearns 30¢10¢  
 Cincinnati 35¢10¢

### Shears—

American (Cast) Iron 75¢10¢  
 Pruning 50¢10¢  
 Barnard's Lamp Trimmers 50¢10¢  
 Tinner's 20¢2¢  
 Seymour's, list, Dec. 1881 60¢10¢

Heinrich's, list, Dec. 1881 60¢10¢  
 Heinisch's Tailor's Shears 50¢10¢  
 First quality C. S. Trimmers 50¢10¢  
 Second quality C. S. Trimmers 40¢10¢

Acme Cast Shears 10¢10¢  
 Diamond Cast Shears 10¢10¢  
 Victor Cast Shears 10¢10¢  
 Howe Bros. & Hubert, Solid Forged Steel 40¢  
 Chicago Drop Forge & F. Co., Solid Steel Forged 60¢  
 Clausen Shear Co., Japaned 70¢  
 Clausen Shear Co., Nickel, same list 70¢  
 Electric 70¢10¢

### Pruning Shears and Hooks.

Disston's Combined Pruning Hook and Saw 50¢10¢  
 Disston's Pruning Hook 50¢10¢  
 E. S. Lee & Co.'s Pruning Tools 40¢  
 Pruning Shears, Henry's Pat. 40¢  
 Henry's Pruning Shears 40¢  
 Wheeler, M. & C. Co.'s Combination, 50¢10¢  
 Dunlap's Saw and Chisel 50¢10¢  
 J. Mallinson & Co., No. 1, \$5.25; No. 2, \$7.25 60¢  
 P. S. & W. Co. 70¢

**Tinner's, 40¢—**  
 Shears and Snips (P. S. & W.) 20¢25¢  
 Patches, see Patches 33¢4¢

**Sheaves—**  
 Sliding Door—  
 M. W. Co., list July, 1888 50¢10¢  
 R. & E., list Dec. 18, 1885 55¢20¢  
 Corbin's list 60¢10¢  
 Patent Roller 60¢10¢  
 Russell's Anti-Friction, list Dec. 18, 1885 60¢2¢  
 Moore's Anti-Friction 50¢

**Sliding Shutter—**  
 R. & E., list Dec. 18, 1885 60¢10¢  
 Sargent's list 60¢10¢  
 Reading list 60¢10¢

**Ship Tools—**  
 L. & J. J. White 20¢5¢

**Shoes, Horse, Mule, &c.—**  
 Horse—  
 Burden's, Perkins', Phoenix, at factory 40¢  
 Add \$1 per keg to above prices.  
 Ox, Wrought—  
 Ton lots 50¢  
 1000 lb lots 50¢  
 500 lb lots 50¢

**Shot—**  
 (Eastern prices 2¢ off, cash, 5 days.)  
 Drop, 50 bag, 25 lb 11¢10¢  
 Drop, 50 bag, 5 lb 11¢10¢  
 Buck and Chilled, 50 bag 14¢  
 Buck and Chilled, 50 bag 14¢

**Shovels and Spades—**  
 Ames' Shovels, Spades, &c., list Nov. 1, 1885 20¢  
 NOTE—Jobbers frequently give 5¢7¢4¢ extra on above  
 Griffith's Black Iron 50¢10¢  
 Griffith's C. S. 60¢10¢  
 Griffith's Solid C. S. R. Goods 20¢  
 Old Colony (Sanford Fork & Tool Co.) 35¢  
 St. Louis Shovel Co. 20¢10¢  
 Hussey, Binns & Co. 15¢25¢  
 Hubbard & Co. 20¢10¢  
 Lehigh Mfg. Co. 50¢10¢  
 Payne Pettibone & Son, list Jan. 1, 1889 30¢  
 Remington's (Lowman's Pat.) 30¢10¢  
 Rowland's, Black Iron 50¢10¢  
 Rowland's Steel 60¢5¢

**Shovels and Tongs—**  
 Iron Head 60¢10¢  
 Brass Head 60¢10¢

**Sieves—**  
 Mann's Tin Rim 50¢25¢  
 Buffalo Metallic, S. S. & Co. 50¢25¢  
 Shaker (Barier's Pat.) Flour Sifters 50¢  
 Electric 50¢25¢  
 A. & W. 25¢10¢

Hunter's 50¢10¢  
 Smith's Adjustable Sifters 50¢10¢  
 Smith's Adjustable Milk Strainer 50¢10¢  
 Smith's Adjustable T. & C. Strainer 50¢10¢

**Sieves, Wooden Rim—**  
 Mesh 18, Nested, 50¢10¢  
 Mesh 20, Nested, 50¢10¢  
 Mesh 24, Nested, 50¢10¢

### Skilms, Thimble—

Western list 75¢10¢  
 Columbus Wrt. Steel, list Jan. 3, 1889 45¢10¢  
 Coldbrookdale Iron Co. 60¢10¢  
 Utica P. S. T. Skilms 60¢  
 Utica Turned and Fitted 35¢

### Slates—

School, by case 50¢50¢10¢

### Snaps, Harness, &c.—

Anchor (T. & S. Mfg. Co.) 65¢  
 Fitch's (Bristol) 50¢10¢  
 Hotchkiss 10¢  
 Andrews 50¢  
 Sargent's Patent Guarded 70¢10¢  
 German, new list 40¢10¢  
 Covert 50¢2¢  
 Covert, New Patent 50¢5¢2¢  
 Covert, New R. E. 60¢10¢  
 Covered Springs 60¢10¢

### Snaths, Scythe.

List 50¢5¢2¢

**Soldering Irons—See Irons, Soldering.**

### Spittoons, Cuspidors, &c.

**Standard Fibercare—**  
 Cuspidors, 8½-inch, 50¢10¢  
 No. 5, 8¢; No. 6, 9¢  
 Spittoons, Daisy, 8-inch, No. 1, \$4; 10 and 11 inch, \$6

**Spoke Shaves—See Shaves, Spoke.**

**Spoke Trimmers—See Trimmers, Spoke.**

### Spoons and Forks—

**Tinned Iron—**  
 Basting, Cen. Stamp Co.'s list 70¢10¢  
 Solid Table and Tea, Cen. Stamp Co.'s list 70¢10¢  
 Buffalo S. S. & Co. 35¢10¢  
 Silver-Plated (4 mos. or 5¢ cash 30¢)

Meriden Brit. Co., Rogers 40, 15, 10¢5¢  
 C. Rogers & Bros. 40, 15, 10¢5¢  
 Rogers & Bros. 40, 15, 10¢5¢  
 Reed & Barton 40¢10¢  
 Wm. Rogers Mfg. Co. 40, 15, 10, 5¢5¢  
 Simpson, Hall, Miller & Co. 40, 15, 10¢5¢  
 Holmes & Edwards Silver Co. 40, 15, 10, 5¢5¢

L. Boardman & Son 40, 15, 10, 5¢5¢  
 Holmes & Edwards Silver Co.:  
 No. 67 Mexican Silver 50¢10¢5¢  
 No. 30 Silver Metal 50¢10¢5¢  
 No. 24 German Silver 50¢10¢5¢  
 No. 49 Nickel Silver 40¢10¢  
 German Silver 50¢50¢5¢  
 German Silver, Hall & Elton 50¢5¢5¢  
 Nickel Silver 50¢5¢5¢  
 Britannia 60¢  
 Boardman's Nickel Silver 50¢5¢5¢  
 Boardman's Britannia Spoons, case lots 60¢5¢5¢

**Springs.**  
 Door—  
 Torrey's Flat, regular size 50¢10¢  
 Gray's, 50¢10¢  
 Bee Rod 50¢10¢  
 Warner's No. 1, 50¢10¢  
 \$3.30 40¢10¢5¢  
 Gem (Coll), list April 19, 1889 10¢  
 Star (Coll), list April 19, 1889 20¢  
 Victor (Coll) 60¢10¢  
 Champion (Coll) 60¢10¢  
 Philadelphia, 5 in., \$5.00; 8 in., \$7.75 5¢  
 Cowell's, No. 1, 50¢10¢; No. 2, 15¢10¢  
 Rubber, complete, 50¢10¢  
 Hercules 50¢  
 Shaw Door Check and Spring 50¢10¢  
 Elliptic, Concord, Platform and Hair 60¢10¢  
 Cliff's Bolster Springs 25¢

**Squares—**  
 Steel and Iron 75¢10¢  
 Nickel-Plated, full cs. ex. 10¢  
 Try Square and T Bevel 60¢10¢  
 Disston's Try Square and T Bevel 45¢10¢  
 Winsted's Try and Miter 30¢10¢  
 Starrett's Micrometer Caliper Squares 25¢

Avery's Flush Bevel Squares 40¢  
 Avery's Bevel Protractor 50¢

**Squeezers.**  
 Fodder—  
 Blair's 50¢10¢  
 Blair's "Climax" 50¢10¢

**Lemon—**  
 Porcelain Lined, No. 1 50¢10¢  
 Wood, No. 2 50¢10¢  
 Wood, Common 50¢10¢  
 Sammis, No. 1, \$5.00; No. 2, \$9; 12 25¢10¢  
 Jennings' Star 50¢10¢  
 The Boss 50¢10¢  
 Dean's, Nos. 1, 50¢10¢; 2, \$3.35; 3, \$1.90 50¢10¢  
 Little Giant 50¢10¢  
 King 40¢5¢  
 Hotchkiss Straight Flash 50¢10¢

**Standard Fiber Ware—See Ware, Standard Fiber.**

**Staples.**  
 Blind—  
 Barbed, ½ in. and larger 75¢10¢  
 Barbed, 3/8 in. 85¢10¢

Fence Staples, Galvanized, Same price  
 Fence Staples, Plain, as B'rd Wire  
 See Trl. Rep.  
 Steelyards 40¢10¢50¢

### Stocks and Dies—

Blacksmith's  
 Waterford Goods 30¢5¢30¢10¢  
 Butterfield's Goods 30¢5¢30¢10¢  
 Lightning Screw Plates 25¢30¢  
 Reece's New Screw Plates 35¢10¢  
 Reversible Hatchet 30¢  
 Gardner 25¢

### Stops, Bench.

Morrill's 50¢10¢  
 Hotchkiss 50¢10¢  
 Weston's, No. 1, \$10; No. 2, \$9 25¢10¢5¢  
 McGill's 50¢10¢  
 Cincinnati 25¢10¢

### Stone—

Hindustan No. 1, 3¢; Axe, 3¢4¢; Slips No. 1, 4¢4¢  
 Sand Stone 25¢  
 Washita Stone, Extra 10¢20¢  
 Washita Stone, No. 1 10¢15¢  
 Washita Stone, No. 2 10¢11¢  
 Washita Stone, No. 1, Extra 30¢38¢  
 Washita Stone, No. 1 25¢25¢  
 Arkansas Stone, No. 1, 4 to 6 in 15¢  
 Arkansas Stone, No. 1, 6 to 9 in 15¢  
 Turkey Oil Stone, 4 to 8 in 40¢  
 Turkey Slips 10¢10¢15¢  
 Lake Superior, Chase 10¢  
 Lake Superior Slips, Chase 10¢  
 Seneca Stone, Red Paper Brand 18¢20¢  
 Seneca Stone, High Rounds 20¢25¢  
 Seneca Stone, Small Whets 24¢40¢

**Stove Polish—See Polish, Stove.**

### Stretchers.

**Carpet—**  
 Cast Steel, Polished 50¢10¢  
 Cast Iron, Steel Points 50¢10¢  
 Socket 50¢10¢  
 Sullard's 25¢25¢10¢

### Strops, Razor—

Genuine Emerson 60¢10¢  
 Imitation 50¢10¢  
 Torrey's 20¢  
 Badger's Belt and Com 50¢10¢  
 Lamont Combination 50¢10¢  
 Jordan's Fat Padded, list Nov. 1, 80¢50¢  
 Electric 10¢10¢

**Stuffers or Fillers, Sausage—**  
 Miles' "Challenge," 50¢10¢  
 Perry 50¢10¢  
 \$21.00 50¢10¢  
 Draw Cut No. 4, each \$30.00 20¢  
 Enterprise Mfg. Co. 20¢10¢  
 Silver 40¢10¢

**Sweepers, Carpet.**  
 Blaisdell No. 5 50¢10¢  
 Blaisdell No. 7 New Drop Pan 50¢10¢  
 Blaisdell, Grand 50¢10¢  
 Grand Rapids 50¢10¢  
 Crown Jewel, No. 1 18¢10¢  
 No. 2, 19¢10¢  
 No. 3, 20¢10¢  
 Magic 50¢10¢  
 Jewel 50¢10¢  
 Improved Parlor Queen 50¢10¢

Nickel, 50¢10¢  
 Japanese 50¢10¢  
 Excelsior 50¢10¢  
 Garland 50¢10¢  
 Arrior Queen 50¢10¢  
 Housewife's Delight 50¢10¢  
 Queen, with band 50¢10¢  
 King 50¢10¢  
 Weed, improved 50¢10¢  
 Hub 50¢10¢  
 Cog-Wheel 50¢10¢  
 Conqueror 50¢10¢  
 Easy 50¢10¢  
 Monarch 50¢10¢  
 Goshen 50¢10¢  
 Advance 50¢10¢  
 Ladies' Friend, No. 1, 50¢10¢  
 No. 2 50¢10¢  
 American 50¢10¢  
 Grand Republic 50¢10¢

**Tacks, Brads, &c.—**  
 List Oct. 19, 1889, extra 10¢2¢ cash.

**Carpet Tacks—**  
 American Iron, Blued 70¢  
 American Iron, Tinned or Cop'd 70¢  
 Steel, Plain or Bright 70¢  
 Steel "lipped or Coppered 70¢  
 Swedes Iron, Blued 70¢  
 Swedes Iron, Tinned or Cop'd 70¢  
 American Iron Cut Tacks, S. S. 70¢  
 Swedes Iron Upholster's Tacks, S. S. 70¢  
 Swedes Iron Upholster's Tacks, Tinned, S. S. 70¢  
 Swedes Iron Card and Upholster's Tacks, Lanc. 60¢  
 Swedes Iron Card and Upholster's Tacks, Tinned, Lanc. 60¢  
 Gimp and Lace Tacks, Lanc. Swedes Iron, Tinned 60¢  
 Gimp and Lace Tacks, S. S. 70¢  
 Gimp and Lace Tacks Tinned, S. S. 70¢  
 Swedes Iron Basket or Trimmers' Tacks, Lanc. 60¢  
 Miners' Tacks, S. S. 70¢  
 Bill-Posters' or Railroad Tacks, Lanc. Swedes 60¢  
 Bill-Posters' or Railroad Tacks, S. S. 70¢  
 Copper Tacks 50¢  
 Copper Finish, & Trunk Nails 50¢  
 Cigar Box Nails 50¢  
 Zinc Glaziers' Points 50¢  
 Picture-Frame Points 50¢  
 Looking-Glass Tacks 50¢  
 Brush Tacks 50¢  
 Tin-Capped Trunk Nails 50¢  
 Finishing Nails 65¢  
 Trunk & Clout Nails, Black & Tin 65¢  
 Common and Patent Brads 50¢  
 Funerian Nails 35¢  
 Basket and Chair Nails 62¢  
 Leathered Carpet Tacks 40¢

**Miscellaneous—**  
 Double-Pointed 82¢10¢  
 Wire Carpet Nails 50¢10¢



Wire Brads & Nails, see Nails, Wire.  
Steel-Wire Brads, R. & E. Mfg. Co.'s  
list.....50&10%

Tap Borers—See Borers, Tap.

Tapes, Measuring—

American.....33&40&50%  
Spring.....40%  
Chesterman's, Regular list.....25&30%

Thermometers—

Tin Case.....80&80&10%

Thimble Skeins—See Skeins.

Ties, Bale—Steel

Standard Wire, list.....50&10&5%

Tinners' Shears, &c.—See Shears,  
Tinners', &c.

Tinware—

Stamped, Japanned and Piced, list  
Jan. 20 1887.....70&100&70&10&5%

Tire Benders, Upsetters, &c.—  
See Benders and Upsetters, Tire.

Tools.

Coopers'—  
Bradley's.....20%  
Barton's.....20&20&5%  
L. & J. White.....20&5%  
Albertson Mfg. Co.....25%  
Beatty's.....30%  
Sandusky Tool Co.....30&30&5%  
Shaves, Cincinnati Tool Co.....50%

Lumber  
Ring Peavies, "Blue Line".....# doz \$20.00  
Ring Peavies, Common.....# doz \$18.00  
Steel Socket Peavies.....# doz \$21.00  
Mail Iron Socket Peavies.....# doz \$19.00  
Cant Hooks, "Blue Line".....# doz \$16.00  
Cant Hooks, Common Finish.....# doz \$14.00  
Cant Hooks, Mail Socket Clasp, "Blue  
Line" Finish.....# doz \$14.00  
Cant Hooks, Mail Socket Clasp, Com-  
mon Finish.....# doz \$14.50  
Cant Hooks, Clip Clasp, "Blue Line"  
Finish.....# doz \$14.00  
Cant Hooks, Clip Clasp, Common Fin-  
ish.....# doz \$12.00  
Hand Spikes.....# doz 6 ft., \$15.00; 8 ft.,  
\$20.00  
Pike Poles, Pike & Hook.....# doz, 12 ft.,  
\$11.50; 14 ft., \$12.50; 16 ft., \$14.50;  
18 ft., \$17.50; 20 ft., \$21.50;  
Pike Poles, Pike only.....# doz, 12 ft.,  
\$10.00; 14 ft., \$11.00; 16 ft., \$13.00; 18  
ft., \$16.00; 20 ft., \$20.00  
Pike Poles, not ironed.....# doz, 12 ft.,  
\$6.00; 14 ft., \$7.00; 16 ft., \$9.00; 18  
ft., \$12.00; 20 ft., \$16.00  
Settling Poles.....# doz, 12 ft., \$14.00; 14  
ft., \$15.00; 16 ft., \$17.00  
Swamp Hooks.....# doz \$18.00

Saw  
Atkins' Perfection.....# doz \$15.00  
Atkins' Excelsior.....# doz \$6.00  
Atkins' Giant.....# doz \$4.00

Tobacco Cutters—See Cutters, To-  
bacco.

Transom Lifters—See Lifters,  
Transom.

Traps—

Game—  
Newhouse.....40&40&5%  
Oneida Pattern.....70&10%  
Game, Blake's Patent.....40&10&5%

Mouse and Rat—

Mouse Wood, Choker.....# doz holes, 11&12%  
Mouse, Round Wire.....# doz \$1.50, 10%  
Mouse, Cage Wire.....# doz \$2.50, 10%  
Mouse, Catch 'em alive.....# doz \$2.50, 15%  
Mouse, Bonanza.....# gr \$10.00  
Mouse, Delusion.....# gr \$15.00  
Rat, Decoy.....# gr \$10.00, 10%  
Cyclone.....# gr \$10.00  
Hotchkiss Metallic 3-in. 5-hole trap.....  
# doz, 90¢; in full cases, # doz.....75¢  
Hotchkiss Imp. Rat Killer.....# gr \$18.50  
Hotchkiss New Rat Killer.....# gro \$16.50

Trowels—

Lothrop's Brick and Plastering.....25&25&5%  
Reed's Brick and Plastering.....15%  
Dighton's Brick and Plastering.....25&25&10%  
Clement & Maynard's.....25%  
Rose's Brick.....15&20%  
Brade's Brick.....25%  
Worrall's Brick and Plastering.....20%  
Garden.....70%

Triers—

Butter and cheese.....25%

Trimmers, Spoke.

Bonney's.....# doz \$10.00, 50%  
Stearns'.....20&10%  
Ives', No. 1, \$15.00; No. 2, \$12.00 # doz.  
Kettles.....35&10%  
Douglas'.....# doz \$9.00, 25%  
Cincinnati.....25%

Trucks, Warehouse, &c.—

R. & L. Block Co.'s list, '82.....40%

Tubes, Boiler—

See Pipe.

Twine—

Flax Twine— BC. B.  
No. 9, 14 and 16 B Balls.....26 34¢  
No. 12, 14 and 16 B Balls.....25 32¢  
No. 18, 14 and 16 B Balls.....22 32¢  
No. 24, 14 and 16 B Balls.....22 32¢  
No. 30, 14 and 16 B Balls.....20 31¢  
No. 204, Matassa, 14 and 16 B Balls.....50¢  
Chalk Line, Cotton, 1/2 B Balls.....25¢  
Mason Line, Linen, 1/2 B Balls.....55¢  
2-Ply Hemp, 1/4 and 1/2 B Balls (Spring  
Twine).....15¢  
3-Ply Hemp, 1 B Balls.....16¢  
3-Ply Hemp, 1 1/2 B Balls.....16¢  
Cotton Wrapping, 5 Balls to B.....15¢  
2, 3, 4 and 5-Ply Jute, 1/2 B Balls.....10¢  
Wool.....6¢  
Paper.....13¢  
Cotton Mops, 6, 9, 12 and 15 B to dox.....18¢

Vices—

Solid Box.....50&100&50&10&25%  
Parallel—  
Fisher & Norris Double Screw.....15&10%  
Stevens'.....25&25%  
Parker's.....20&25%  
Wilson's.....55%  
Howard's.....40%  
Bonney's.....40&10%  
Mills' Falls.....40&10%  
Trenton.....40&10%  
Merrill's.....15&20%  
Sargent's.....00&10&10%  
Backus and Union.....40%  
Double Screw Leg.....15&10%  
Prentiss.....20&25%  
Simpson's Adjustable.....40%  
Moore's.....50%

Saw Files—

Bonney's, Nos. 2 & 3, \$15.00.....40&10%  
Stearns'.....33&40&10&33%  
Stearns' Silent Saw Vices.....33&40&33%

Sargent's.....65%&10%  
Hopkins'.....# doz \$17.50, 10%  
Reading.....40&10%  
Ventworth.....20&10%  
Combination Hand Vices.....# gr \$42.00  
Cowell Hand Vices.....20%  
Bauer's Pipe Vices.....10%  
Cincinnati.....20&10%

Wagon Boxes—See Boxes, Wagon.

Washer Cutters—See Cutters,  
Washer.

Wagon Jacks—See Jacks, Wagon.

Ware, Hollow, Enameled, &c.

Cast Iron, Hollow—  
Stove Hollow-Ware—  
Ground.....55&50&60&5%  
Unground.....65&100&60&10&5%  
White Enameled Ware—  
Masilin Kettles.....60&10&10%  
Boilers and Saucepans.....40&5%  
Tinned Boilers and Saucepans.....40&5%  
Rustless Hollow-Ware.....50&50&5%  
Gray Enameled Ware—  
Stove.....50%  
Masilin Kettles.....60&10&10%  
Boilers and Saucepans.....40&5%  
Enameled—  
Agate and Granite Ware, list Jan. 1,  
1889.....33&40&10%  
Ironclad Enameled Ware.....dis 33&40&10%

Galvanized Tea-Kettles—  
Inch.....6 7 8 9  
Each.....55¢ 60¢ 65¢ 75¢

Standard Fiber—

Wash-Basins, 10 1/2 in.....# doz \$2.00  
Wash-Basins, 12 in.....2.25  
Keelers, 11 1/2 in.....4.00  
Cuspidors.....8.00  
Spittoons, "Daisy," 8 in.....4.00  
Feck Measure.....4.00  
Half-peak Measure.....3.50  
See also Pails.

Indurated Fiber—  
Spittoons, No. 2, # doz.....\$9.00  
Basins, Ringed, # doz, No. 1, \$4.80;  
No. 2, \$4.20; No. 3.....\$3.60  
Washtubs, Nested, Nos. 0, 1, 2 and 3 (4  
pieces), # nest.....\$7.50  
Keelers, Nested, Nos. 1, 2, 3 and 4 (4  
pieces), # nest.....\$3.70  
Butter Bowls 15, 17 and 19-inch (3  
pieces), # nest.....\$2.25  
Liquid Measures, pt., qt., 2 qt. and fun-  
nel (4 pieces) # set.....\$4.00  
Dry Measures, 1, 2, 4, 8 and 16 qts. (5  
pieces), # set.....\$3.00  
See also Pails.

Silver Plated, Hollow—

4 mo. or 5 % cash in 30 days.  
Reed & Barton.....  
Meriden Britannia Co.....40&5%  
Simpson, H. & Miller & Co.....  
Rogers & Brother.....  
Hartford Silver Plate Co.....40&5&5%  
William Rogers Mfg. Co.....

Washers—

Size.....1/2 5-16 3/8 1/2 3/4 1  
Washers.....6 1/2 3/4 1/2 3/4 3 3 3  
In lots less than 200 B, # B, add 1/4¢, 5-B  
boxes 1¢ to list.

Wedges—

Iron.....# B 3/4  
Steel.....# B 4

Weights—

Sash—  
Solid Eyes.....# ton \$22.00

Well Buckets, Galvanized—See

Buckets, Well, Galvanized.

Wheels.

Well—  
8 in., \$2.25; 10 in., \$2.70; 12 in., \$3.25

Wire and Wire Goods—

Iron—

Br. & Ann'd, Nos. 0 to 18.....65%  
Cop'd, Nos. 0 to 18.....60%  
Galv., Nos. 0 to 18.....55%  
Tin'd, Tinned list Nos. 0 to 18.....55%  
Stone  
Br. and Ann'd, Nos. 16 to 18.....67%  
Bright and Ann'd, Nos. 19 to 26.....67%  
Br. and Ann'd, Nos. 27 to 36.....70&10%  
Tinned.....67%  
Tinned Broom Wire.....67%  
Galvanized Fence.....55%  
Annealed Fence, Nos. 5 and 9.....55%  
Break'd Grape, Nos. 10 to 14.....55%  
Brass, list Jan. 18, 1884.....25%  
Copper, list Jan. 18, 1884.....25%  
Barb Fence.....See Trade Report  
Wire on Spools.....65%  
Mallin's Steel and Tin'd Wire on Spools.....50%  
Cast Steel Wire.....50%  
Stub's Steel Wire.....\$6.00 to \$2.30  
Steel Music Wire, Nos. 12 to 30.....55¢  
Picture Wire.....New list 50¢  
Barb Wire Safety Guards.....# 1000, \$9.00, 25%  
Wire Clothes Lines, see Lines.

Bright Wire Goods—

Standard list.....85%

Wire Cloth, Netting, &c. See

Cloth and Netting, Wire.

Wire Rope—See Rope, Wire.

Wrenches—

American Adjustable.....40%  
Baxter's Adjustable "S".....40&10&50%  
Baxter's Diagonal.....40&10&50%  
Coe's Genuine.....50&2%  
Coe's "Mechanics".....50&10&2%  
Girard Standard.....70&10%  
Machinists' Sterling Wrench Co. 70&10%  
Lamson & Sessions' Engineers'.....60&10%  
Lamson & Sessions' Standard.....70&10%  
Goes' Pattern, Wrought.....75&77&10  
Girard Agricultural.....  
Lamson & Sessions' Agric'l.....  
Sterling Wrought.....  
Bemis & Call's  
Pat. Combination.....35%  
Merrick's Pattern.....35%  
Brigg's Pattern.....25%  
Cylinder or Gas Pipe.....40&5%  
No. 3 Pipe.....40&10%  
Allen's Pocket (Bright).....\$6.00, 50&10%  
The Favorite Pocket.....# doz \$4.00, 40%  
Webster's Pat. Combination.....25%  
Boardman's.....20&10%  
Always Ready.....25&25%  
Alligator.....50%  
Donohue's Engineer.....20&10%  
Acme, Bright.....40&2%  
Acme, Nickeled.....50&2%  
Walker's.....55&2%  
Diamond Steel.....55&2%  
Cincinnati Brace Wrenches.....15&10%  
Cincinnati Monkey Wrenches.....15&10%

Wringers, Clothes—

List March 11, 1889, 2% cash.

Wrought Goods—

Staples, Hooks, &c., list Jan. 12, 1889,  
80&15&85%

## PAINTS, OILS AND COLORS.

Animal and Vegetable Oils.

Linseed, City, raw, per gal. 61 @ 63  
Linseed, City, boiled.....64 @ 66  
Linseed, Western, raw.....59 @ 60  
Lard, City, Extra Winter.....54 @ 55  
Lard, City, Prime, present  
make.....52 @ 53  
Lard, City, Extra No. 1.....45 @ 48  
Lard, City, No. 1.....42 @ 44  
Lard, Western, prime.....52 @ 53  
Cotton-seed, Crude, prime.....@ 28  
Cotton-seed, Crude, off  
grades.....26 @ 27  
Cotton-seed, Summer Yel-  
low, prime.....@ 34  
Cotton-seed, Summer Yel-  
low, off grades.....32 @ 33  
Sperm, Crude.....66 @ 67  
Sperm, Natural Spring.....67 @ 68  
Sperm, Bleached Spring.....67 @ 68  
Sperm, Natural Winter.....81 @ 83  
Sperm, Bleached Winter.....40 @ 41  
Whale, Crude.....46 @ 47  
Whale, Natural Winter.....46 @ 47  
Whale, Bleached Winter.....48 @ 49  
Whale, Extra Bleached.....51 @ 52  
Sea Elephant, Bleached  
Winter.....58 @ 60  
Menhaden, Crude, Sound.....25 @ 26  
Menhaden, Crude, Southern  
Menhaden, Light Pressed.....27 @ 28  
Menhaden, Bleached W'ter.....32 @ 33  
Menhaden, Extra Bleached  
Winter.....36 @ 37  
Tallow, City, prime.....@ 46  
Tallow, Western, prime.....59&40  
Cocoanut, Ceylon.....31 @ 32  
Cod, Domestic.....31 @ 32  
Cod, Foreign.....33 @ 34  
Red Elaine.....36 @ 37  
Red Saponified.....25 @ 26  
Bank.....27 @ 28  
Straits.....27 @ 28  
Olive, Italian, blbls.....87&90  
Neatsfoot, prime.....62&65  
Palm, prime, Lagos.....54&55

Mineral Oils.

Black, 29 gravity, 25 @ 30  
cold test.....8 @ 9  
Black, 29 gravity, 15 cold  
test.....84&90  
Black, 29 gravity, summer.....6 @ 7  
Cylinder, light, filtered.....15 @ 20

Paints and Colors.

Barytes, Prime White.....@ 22.50  
Barytes, Amer. refined.....20.00 @  
Barytes, Amer. No. 1.....18.00 @  
Barytes, Amer. No. 2.....16.00 @  
Barytes, Amer., off-color 13.00 @ 14.00  
Blue, Celestial.....# 5 1/2 @ 7 1/2  
Blue, Chinese.....45 @ 50  
Blue, Prussian.....20 @ 25  
Blue, Ultramarine.....7 @ 25  
Brown, Spanish.....3 1/2 @ 3 1/2  
Brown, Vandyke, Amer.....6 @ 8  
Black, American Drop.....8 @ 10  
Black, English Drop.....12 @ 14  
Black, Frankfort, Drop.....12 @ 18  
Black, Lamp, common.....5 @ 18  
Black, Lamp, medium.....19 @ 25  
Black, Lamp, prime.....27 @ 35  
Carmine, No. 40, in boxes  
or barrels.....3.20 @  
Carmine, No. 40, in ounce  
bottles.....4.20 @  
Chalk, in bulk.....# ton @ 2.00  
Chalk, in blbls. # 100 B 30 @ 40  
China Clay, English.....# ton 13.50 @ 18.00  
China Clay, Southern.....10.00 @ 11.50  
Cobalt Oxide, prep'd.....2.90 @  
Cobalt Oxide, black.....lots 100 B 2.60 @  
Cobalt, Oxide, black.....less 100 B 2.65 @  
Crocus Martius, Engl. # B.....1 1/2 @ 2 1/2  
Crocus, American.....1 1/2 @ 2 1/2  
Green, Paris, in bulk.....12 @ 12 1/2  
Green, Paris, 170 @ 175 B.....12 1/2 @ 13  
Green, Paris, small pack.....15 @ 20  
Green, Chrome, ordinary.....8 @ 11  
Green, Chrome, extra.....12 @ 13  
Green, Chrome, pure.....22 @ 25  
Lead, White, dry in blbls.....@ 6 1/2  
Lead, White, dry in kegs.....@ 7 1/2  
Lead, White, in oil, keg lots  
600 B.....@ 7 1/2

Lead, White, in oil, 25 B tin

pails.....@ 7 1/2  
Lead, White, in oil, 12 1/2 B tin  
pails.....@ 8 1/2  
Lead, White, in oil, 1 to 5 B as-  
sorted tins.....@ 9 1/2  
Lead, Red, pkgs. 500 B.....@ 7  
Lead, Red, kegs.....@ 7 1/2  
Litharge (powd.), kegs.....@ 7 1/2

TERMS, &c.—Lead and Litharge.—On

lots of 500 B or over, 60 days' time or  
2% discount for cash if paid within 15  
days of date of invoice. Rebates, pay-  
able June 30 and December 31, if quan-  
tities specified are taken prior to those  
dates: To buyers of 3 tons and less  
than 10 tons, 4%; 10 tons and less than  
25 tons, 6%; 25 tons and less than 50  
tons, 8%; 50 tons and upward, 10%.

Ocher, Rochelle.....1.35 @ 1 1/2  
Ocher, French Washed.....1 1/2 @ 2 1/2  
Ocher, German Washed.....1 1/2 @ 3  
Ocher, American.....1 1/2 @ 1 1/2  
Orange Mineral, English.....8 1/2 @ 9 1/2  
Orange Mineral, French.....9 @ 9 1/2  
Orange Mineral, German.....8 1/2 @ 9 1/2  
Paris White, English Cliff  
stone.....90 @ 1.10  
Paris White, American.....70 @ 80  
Red, Indian, English.....2 1/2 @ 3  
Red, Indian, American.....2 @ 6  
Red, Turkey.....9 @ 14  
Red, Tuscan.....9 @ 11  
Red, Venetian, American.....# 100 B 1.00 @ 1.25  
Red, Venetian, English.....1.00 @ 1.45

Sienna, Italian, Burnt and  
Powdered.....5 @ 6 1/2  
Sienna, Ital., Burnt Lumps.....1 1/2 @ 3 1/2  
Sienna, Ital., Raw Lumps.....2 @ 3 1/2  
Sienna, American, Raw.....1 1/2 @ 1 1/2  
Sienna, American, Burnt  
and Powdered.....1 1/2 @ 1 1/2  
Talc, French.....14 @ 14 1/2  
Terra Alaba, American No. 2.....1 @ 1 1/2  
Terra Alaba, Fr'ch. # 100 B.....72 1/2 @ 80  
Terra Alaba, English.....80 @ 85  
Terra Alaba, American No. 1.....70 @ 75  
Terra Alaba, American No. 2.....38 @ 40  
Powder, Turkey, Bnt. and  
Umber, Turkey, Bnt. Lumps.....3 1/2 @ 4  
Umber, Turkey, Raw and

Powdered.....3 1/2 @ 4

Umber, Turkey, R'w Lumps.....25 @ 24  
Umber, Turkey, Bnt. Amer.....14 @ 1 1/2  
Umber, Turkey, R'w Amer.....14 @ 1 1/2  
Yellow, Chrome.....10 @ 25  
Vermilion, Americ. Lead.....11 1/2 @ 13  
Vermilion, Quicksilver, bulk.....8 @ 9  
Vermilion, Quicksilver, bag.....@ 69  
Vermilion, Quicksilver,  
smaller pkgs.....@ 73  
Vermilion, English Import.....82 @ 85  
Vermilion, Imitation, Eng.....8 @ 25  
Vermilion, Trieste.....75 @ 77  
Vermilion, Chinese.....28 @ 29  
Whiting, Common.....# 100 B 40 @ 45  
Whiting, Gliders.....50 @ 60  
Zinc, American, dry.....# 4 1/2 @ 4 1/2  
Zinc, French, Red Seal.....@ 7 1/2  
Zinc, French, Green Seal.....@ 7 1/2  
Zinc, French, V. M. X.....6 @ 6 1/2  
Zinc, Antwerp, Red Seal.....@ 6 1/2  
Zinc, Antwerp, Green Seal.....@ 7 1/2  
Zinc, German, L. Z. O.....@ 6 1/2  
Zinc, V. M. in Poppy Oil.....  
Seal, lots of 1 ton and  
over.....10 1/2 @ 10 1/2  
lots less than 1 ton.....10 1/2 @ 11  
Zinc, V. M. in Poppy Oil,  
Red Seal.....9 1/2 @ 10  
lots of 1 ton and over.....9 1/2 @ 10 1/2  
lots less than 1 ton.....9 1/2 @ 10 1/2  
Discounts.—French Zinc.—Discounts  
to buyers of 10 bbl. lots of one or as-  
sorted grades, 1%; 25 bbls, 2%, 50 bbls,  
4%. No discount allowed on less  
than bbl. lots.

Colors in Oil.

Blue, Chinese.....# 35 @ 40  
Blue, Prussian.....20 @ 45  
Blue, Ultramarine.....12 @ 18  
Brown, Vandyke.....7 @ 12  
Green, Chrome.....8 @ 13  
Green, Paris.....16 @ 14  
Sienna, Raw.....7 @ 13  
Sienna, Burnt.....7 @ 13  
Umber, Raw.....7 @ 10  
Umber, Burnt.....7 @ 10  
Glue.....  
Low Grade.....# 8 @ 10  
Cabinet.....12 @ 14  
Medium White.....12 @ 15  
Extra White.....17 @ 20  
French.....9 @ 20  
English.....10 @ 15  
Irish.....12 @ 15

# CURRENT METAL PRICES.

FEBRUARY 19, 1890.

The following quotations are for small lots. Wholesale prices, at which large lots only can be bought, are given elsewhere in our weekly market reports

## IRON AND STEEL.

### Bar Iron from Store.

<b>Common Iron:</b>	
1 to 2 in. round and square..	2 10 @
1 to 6 in. x 1/2 to 1 in. ....	
<b>Refined Iron:</b>	
1 to 2 in. round and square..	2 30 @
1 to 4 in. x 1/2 to 1 1/2 in. ....	
4 1/2 to 6 in. x 1/2 to 1 in. ....	2 50 @
1 to 6 in. x 1/2 and 5-16 .....	2 40 @
Rods—1/2 and 11-16 round and sq. ....	2 00 @
Bands—1 to 6 x 3-16 to No. 13 .....	2 00 @
"Burden Best" Iron, base price .....	3 00 @
Burden's "H. B. & S." Iron, base price .....	2 80 @
"Ulster" .....	3 10 @
Norway Rods .....	4 00 @

### Merchant Steel from Store.

<b>Open-Hearth and Bessemer Machinery,</b>	
Toe Calk, Tire and Sleigh Shoe, base price in small lots .....	2 3/4 @
Best Cast Steel, base price in small lots .....	8 @
Best Cast Steel Machinery, base price in small lots .....	5 @

### Sheet Iron from Store.

	Common American.	R. G. Cleaned.
10 to 16 .....	3 00 @	3 50 @
17 to 20 .....	3 25 @	3 75 @
21 to 24 .....	3 35 @	3 75 @
25 and 26 .....	3 45 @	3 75 @
27 .....	3 55 @	4 00 @
28 .....	3 75 @	4 25 @
<b>B. E.</b>		
Galv'd, 14 to 20, 1/2 in. 5.00 @	4 75 @	5 12 1/2 @
Galv'd, 21 to 24, 1/2 in. 5.37 1/2 @	5 12 1/2 @	5 50 @
Galv'd, 25 to 26, 1/2 in. 5.75 @	5 50 @	5 85 1/2 @
Galv'd, 27, 1/2 in. 6.12 1/2 @	5 85 1/2 @	6 23 @
Galv'd, 28, 1/2 in. 6.50 @	6 23 @	
Patent Planchet .....	10 @	10 @
Russia .....	9 1/2 @	10 @
American Cold Rolled B. B. ....	5 @	7 @
Craig Polished Sheet Steel .....	8 1/4 @	

### English Steel from Store.

Best Cast .....	15 @
Extra Cast .....	16 1/2 @
Swaged Cast .....	16 @
Best Double Shear .....	15 @
Blister, 1st quality .....	12 @
German Steel, Best .....	10 @
2d quality .....	9 @
3d quality .....	8 @
Sheet Cast Steel, 1st quality .....	15 @
2d quality .....	14 @
3d quality .....	13 1/2 @

## METALS.

### Tin.

Banca, Pigs .....	23 @
Straits, Pigs .....	23 1/2 @
English, Pigs .....	23 @
Straits in Bars .....	23 1/2 @

### Tin Plates.

	Charcoal Plates.—Bright.	Per box.
Melyn Grade .....	IC, 10 x 14 .....	6 50 @
" .....	IC, 12 x 12 .....	6 75 @
" .....	IC, 14 x 20 .....	6 50 @
" .....	IC, 20 x 28 .....	13 00 @
" .....	IX, 10 x 14 .....	8 00 @
" .....	IX, 12 x 12 .....	8 25 @
" .....	IX, 14 x 20 .....	8 40 @
" .....	IX, 20 x 28 .....	15 75 @
" .....	DC, 12 1/2 x 17 .....	6 00 @
" .....	DX, 12 1/2 x 17 .....	7 50 @
Calland Grade .....	IC, 10 x 14 .....	6 50 @
" .....	IC, 12 x 12 .....	6 75 @
" .....	IC, 14 x 20 .....	6 40 @
" .....	IX, 10 x 14 .....	7 65 @
" .....	IX, 12 x 12 .....	7 90 @
" .....	IX, 14 x 20 .....	7 65 @
Allaway Grade .....	IC, 10 x 14 .....	6 50 @
" .....	IC, 12 x 12 .....	6 75 @
" .....	IC, 14 x 20 .....	6 50 @
" .....	IC, 20 x 28 .....	11 00 @
" .....	IX, 10 x 14 .....	6 75 @
" .....	IX, 12 x 12 .....	6 90 @
" .....	IX, 14 x 20 .....	6 75 @
" .....	IX, 20 x 28 .....	13 50 @
" .....	DC, 12 1/2 x 17 .....	5 80 @
" .....	DX, 12 1/2 x 17 .....	6 00 @

### Coke Plates.—Bright.

Steel Coke.—IC, 10 x 14, 14 x 20.. ....	@	\$5.12 1/2
10 x 20.. ....	@	7.25
20 x 28.. ....	@	10.25
IX, 10 x 14, 14 x 20.. ....	@	6.10
BV Grade.—IC, 10 x 14, 14 x 20.. ....	@	4.87 1/2

### Charcoal Plates.—Terne.

Dean Grade.—IC, 14 x 20.....	@	\$5.10
20 x 28.....	@	10.25
IX, 14 x 20.....	@	5.90
20 x 28.....	@	11.80
Abecarne Grade.—IC, 14 x 20...	@	4.87 1/2
20 x 28.....	@	9.87 1/2
IX, 14 x 20.....	@	5.80
20 x 28.....	@	11.60

### Tin Boiler Plates.

XX, 14 x 26 .....	112 sheets .....	\$13.00 @ \$13.00
XX, 14 x 28 .....	112 sheets .....	@ 13.25
XX, 14 x 31 .....	112 sheets .....	@ 14.75

### Copper.

UTY: Pig, Bar and Ingot, 4¢; Old Copper, 3¢  
P. D. Manufactured (including all articles of which Copper is a component of chief value, 45¢ ad valorem.

### Ingot.

Lake .....	@ 15¢
Baltimore Grade .....	@ 14¢

### Sheet and Bolt.

Prices adopted by the Association of Copper Manufacturers of the United States, December 5, 1889, being quotations for all sized lots.

Not wider than	Not longer than	And longer than	Weights per square foot and prices per pound.									
			Over 64 oz.	32 to 64 oz.	16 to 32 oz.	14 to 16 oz.	12 to 14 oz.	10 to 12 oz.	8 to 10 oz.	Less than 8 oz.		
30—72 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
30—72 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
36—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
36—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
48—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
48—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
60—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
60—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
84—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
84—96 .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	
Over 84 in. wide .....			12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	12 1/2	30	

All Bath Tub Sheets ..... 16 oz. 14 oz. 12 oz. 10 oz. |  || Per pound ..... | \$0.35 0.37 0.20 0.32 |  |
Bolt Copper, 1/2 inch diameter and over, per pound .....	2 3/4 @	
Circles, 60 inches in diameter and less, 3 cents per pound advance over lowest prices of Sheet Copper of the same thickness.		
Circles, over 60 inches diameter, up to 96 inches diameter, inclusive, 5 cents per pound advance over lowest prices of Sheet Copper of the same thickness.		
Circles, over 96 inches diameter, 6 cents per pound advance over lowest prices of Sheet Copper of the same thickness.		
Segment and Pattern Sheets, 3 cents per pound advance over price of sheets required to cut them from.		
Cold or Hard Rolled Copper, 14 ounces per square foot and heavier, 1 cent per pound over the foregoing prices.		
Cold or Hard Rolled Copper, lighter than 14 ounces per square foot, 2 cents per pound over the foregoing prices.		

### Copper Bottoms, Pits and Flats.

14 ounce to square foot and heavier .....	26¢
12 ounce and up to 14 ounce to square foot .....	27¢
10 ounce and up to 12 ounce .....	29¢
Circles less than 8 inches diameter 2 cents per pound additional.	
Circles over 13 inches diameter are not classed as Copper Bottoms.	

### Tinning.

Tinning sheets on one side, 10, 12 and 14 x 48 each ..... 8¢ || Tinning sheets on one side, 30 x 60 each ..... | 30¢ |
For tinning boiler sizes, 9 in. (sheets 14 in. x 60 in.), each .....	15¢
For tinning boiler sizes, 8 in. (sheets 14 in. x 56 in.), each .....	12¢
For tinning boiler sizes, 7 in. (sheets 14 in. x 52 in.), each .....	10¢
Tinning sheets on one side, other sizes, per square foot .....	21¢
For tinning both sides double the above prices.	

### Planchet Brass and Copper.

14 x 48 .....	31¢
12 oz. and lighter .....	33¢
24 x 48 and 30 x 60 .....	37¢
14 and 16 oz. and heavier .....	44¢

### Seamless Brass and Copper Tubes.

O. G.	N. G.	3/4	1/2	3/8	1/4	1/8	1/16
8-14 .....	6-12	37	33	30	29	28	27
15 .....	13	38	33	31	30	29	28
16 .....	14	39	34	32	31	30	29
17 .....	15	40	35	33	32	31	30
18 .....	16	42	36	34	32	31	30
19 .....	17	43	37	35	34	33	32
20 .....	18-19	44	39	37	36	35	34
21 .....	20	46	41	39	38	37	36
22 .....	21	48	42	40	39	38	37
23 .....	22	50	44	42	41	40	39
24 .....	23	53	46	44	43	41	40
25 .....	24	56	49	46	45	44	43

Copper, Bronze and Gilding Tube, 3¢ per lb. additional.

### Brazed Brass Tubing. (To No. 20, inclusive.)

Above 5-16 inch to 3 inch, inclusive .....	35¢
Plain, above 3 inch .....	45¢
Plain, 5-16 inch .....	45¢
Plain, 1/2 inch .....	60¢
Plain, 3-16 inch .....	81.00
Plain, 1/2 inch .....	1.50
Fancy Tubing, Brass, to No. 20, inclusive .....	45¢
bronze Tubing, 3¢ per lb. more than Brass.	
Discount from list .....	25 @

### Roll and Sheet Brass.

Discount from list ..... 25 % |

### High Brass Rods.

Over 1 inch diameter .....	27¢
1/2 inch to 1 inch diameter, both inclusive .....	24¢
No. 8 and less than 1/2 inch diameter .....	20¢
Smaller than No. 8 .....	30¢
Hexagon, Octagon and Square, 3¢ per lb. advance over Round Rods.	

### Spelter.

Duty: Pig, Bars and Plates, \$1.50 per 100 lb.	
Western Spelter .....	61¢
"Bertha" .....	61¢

### Zinc.

Duty: Sheet, 2 1/4¢ per lb.	
600 lb casks .....	61¢
Per lb .....	71¢

### Lead.

Duty: Pig, \$2 per 100 lb. Old Lead, 2¢ per lb. Pipe and Sheets, 3¢ per lb.	
American .....	41¢
Newark .....	41¢
Bar .....	41¢
Pipe, subject to trade discount .....	6 ¢
Tin-Lined Pipe, subject to trade discount .....	15¢
Block Tin Pipes, subject to trade discount .....	45¢
Sheet, subject to trade discount .....	61¢

### Shot.

Eastern prices 2¢ off, cash, 5 days.	
Drop, 25-lb bag .....	\$1.10
Drop, 5-lb bag .....	20 ¢
Chilled and Buck, 25-lb bag .....	1.44
Chilled and Buck, 5-lb bag .....	34 ¢
Dust, 25-lb bag .....	1.80

### Solder.

1/2 @ 1/2 (Guaranteed) .....	14 1/2 ¢
Extra Wiping .....	12 1/2 ¢
The prices of the many other qualities of Solder in the market indicated by private brands vary according to composition.	

### Antimony.

Cookson .....	31¢
Hallett's .....	22¢

### ALUMINUM.

#### Prices in Ingots.

\$2.00 per lb in lots of 1000 lb and over.	
\$2.25 per lb in lots of 500 lb and over.	
\$2.50 per lb in lots of 100 lb and over.	

#### Prices Per Pound on Rolled Sheets.

(Brown & Sharpe, Standard Gauge.)

	2 in.	10 in.	14 in.	18 in.	22 in.
Wider than .....	10 in.	14 in.	18 in.	22 in.	24 in.
And including .....					
Up to No. 20 inclusive .....	\$2.50	\$2.60	\$2.80	\$3.00	\$3.20
Nos. 21, 22, 23 and 24 .....	2.60	2.70	2.90	3.10	3.30
Nos. 25 and 26 .....	2.70	2.80	3.00	3.20	3.40
Nos. 27 and 28 .....	2.80	2.90	3.10	3.30	3.50

Sheets, thinner than No. 28 gauge and wider than 24 inches, special prices not less than \$5 per pound. Add 3¢ cents per pound for sheets cut to particular widths and lengths. Sheets rolled to .001 in. and under, 50 cents per ounce. Leaf in books, 20 cents per book; \$2 per pack of 10 books, sheets 5 x 5 inches.

### Aluminum Tubing.

From \$1 per pound upward, according to size and thickness of walls.

### Aluminum Castings.

From 50 cents upwards per pound extra over the cost of the metal in ingots, according to the number wanted, weight, the difficulty of casting, cost of patterns, &c.

### Aluminum Wire in Coils.

(Brown & Sharpe, Standard Gauge.)

	Per lb
All numbers up to No. 14 (.064 in.) inclusive .....	\$3.00
No. 15 (.057 in.) to 22 (.02534 in.) inclusive .....	3.25
Nos. 23 (.02571 in.) and 24 (.0201 in.) inclusive .....	3.50
Nos. 25 (.0179 in.) and 26 (.01524 in.) inclusive .....	3.75
Nos. 27 (.014195 in.) and 28 (.01261 in.) inclusive .....	4.00
Nos. 29 (.011257 in.) and 30 (.010023 in.) inclusive .....	4.25
No. 31 (.008928 in.) .....	4.50
No. 32 (.00795 in.) .....	4.75
No. 33 (.00708 in.) .....	5.00
No. 34 (.00630 in.) .....	5.25
No. 35 (.00561 in.) .....	5.75
No. 36 (.00500 in.) .....	6.25
No. 37 (.00445 in.) .....	7.00
No. 38 (.00395 in.) .....	8.50
No. 39 (.00351 in.) .....	12.00
No. 40 (.00314 in.) .....	16.00

Spooling, on 1-pound spools, 15